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A COMPARISON OF THE BACKGROUND AND PERSONALITY CHARACTERISTICS, SEX-ROLES AND WORK VALUES OF WOMEN TRAINING IN TRADITIONAL OCCUPATIONS AND NON-TRADITIONAL TRADES

by

© ANNE I. GLASGOW

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled A Comparison of the Background and Personality Characteristics, Sex-Roles and Work Values of Women Training in Traditional Occupations and Non-Traditional Trades submitted by Anne I. Glasgow in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

The purpose of this study was to compare women training in traditional occupations (medical laboratory technology, X-ray technology, secretarial work and ladies hair-styling) and non-traditional trades (carpentry, cabinet-making, electrical, mechanics and welding). A background questionnaire, a Personality Research Form, a Bem Inventory and a Work Values Inventory were completed by 89 women in traditional fields and 47 women in non-traditional fields to determine which factors were important in selecting a traditional or non-traditional field.

Women in both occupational groups were very similar, however a few differences appeared. Results from the background questionnaire indicated that women in the trades were older, more often married and had more job experience than women in traditional fields. In addition women in the trades perceived working mothers and persons in the occupation as being very influential in their selection of a non-traditional trade. The women in the trades reported that many people tried to discourage them from selecting a non-traditional trade. Women in the trades recalled during childhood, participating more often in masculine activities while women in traditional fields recalled participating more often in feminine activities. The women in both occupational groups gave similar reasons for selecting their particular occupations, however women in traditional fields were interested in working with people while women in the trades were interested in obtaining a high income.

On the Personality Research Form, women in the trades perceived

themselves to be more risk-taking than women in traditional fields. The results of the Bem Inventory indicated that women in the trades were more often androgynous in sex-role orientation while women in traditional fields were more often feminine in sex-role orientation. The results of the Work Values Inventory suggested that women in the traditional fields placed more importance on the physical surroundings of the job than did women in the trades.

In conclusion, the factors that related to women's choice of traditional or non-traditional occupations were very complex, and there were no clearly identifiable factors associated with one field or the other. The women in this study were more similar than different, however many of these differences related to characteristics that might overcome the stigma of working in male-dominated trades. The results of this study suggested that there is probably no particular reason why any woman could not enter into a non-traditional trade.

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CHAPTER I INTRODUCTION

Introduction to the Problem

Few women pursue careers in male-dominated (non-traditional) occupations such as carpentry, welding and electronics. Alberta trains 25 percent of all apprentices in Canada but only 1.5 percent of them are women (Quigley, 1980). In the past these highly skilled trades were considered appropriate for men only, as social pressures encouraged women to become homemakers or work in female-dominated (traditional) occupations such as teaching, nursing or clerical work considered compatible with the feminine sex-role. The literature defines traditional female occupations as those in which at least two-thirds of the workers are females, and non-traditional occupations as those in which two-thirds of the workers are male. Higher cost of living, increased divorce rates and the women's movement have motivated females to enter non-traditional occupations for financial reasons; the average annual 1980 income for men in Canada was $17,000 compared to $10,000 for women (Regan, 1980). Pollack (1980) predicts a critical shortage of skilled workers in Canada by 1985. The number of new skilled workers entering the labor force declined to 35,000 in 1978 from 106,000 in 1974 because of tightened immigration regulations, an increased reluctance of skilled workers to immigrate to Canada, a rapidly aging population of skilled workers in Canada and a lack of training programs offered by industry. Recognizing this decline, Employment and Immigration Canada is now encouraging women to enter non-traditional occupations by reimbursing 75 percent of employee

wages and up to 100 percent of costs during training (Employment and Immigration Canada, 1981). These factors are contributing to more females selecting non-traditional occupations in Canada.

In 1979, 48.9 percent of Canadian women of working age were employed. The number of working women has risen from 29.7 percent in 1961 and 16.1 percent in 1901 (Statistics Canada, 1980). In 1979, married women constituted 60.4 percent of the employed female labor force with women representing 39.3 percent of the total Canadian work force. Occupational segregation was still prevalent at this time (Women's Bureau, 1979):

> Although 48.9 percent of the women in Canada were in the paid labor force, they are still entering traditionally female dominated occupations. In 1979 almost 35 percent of women working for pay in Canada were employed in clerical occupations, 17.9 percent in service occupations and 10.7 percent in sales. Only 5 percent had managerial and administrative jobs. Even fewer had technical and skilled labor jobs. (p.1).

Over 70 percent of working women in the United States were employed in one of four traditional occupational spheres, namely nursing, teaching, secretarial and social work. in the early 1970's (Tangri, 1972). Lloyd (1975) offered the following three reasons why women choose lower paying traditional jobs over higher-paying non-traditional jobs. They choose occupations such as nursing and teaching that are applicable to the home environment, they avoid occupations such as carpentry where employers, fellow employees and customers may prefer men and discriminate against women, and they are turned away by employers who believe that the average labor force turnover is higher among women.

Few studies have examined psychological and social factors

relating to women's decisions to select non-traditional trades such as carpentry. Most of the research exploring the career choice of women in non-traditional occupations has been on women in the professional fields, but little information is available about the career choices of women in blue-collar occupations. The studies of women in the professional fields of medicine, science, engineering, law and business have looked at background and personality characteristics and sex-role orientations.

The background characteristics studied include: sibling status (Crawford, 1978; Greenfeld, Grenier and Wood, 1980; Helson, 1971; Hennig and Jardim, 1977; and many others); parental socio-economic status, education and occupation (Almquist and Angrist, 1970; Crawford, 1978; Tangri, 1972; and many others); ethnic and religious backgrounds (Constantini and Craik, 1972; Helson, 1971; Lemkau, 1978; Steinberg, 1978); parental values (Baruch, 1976; Schaefer, 1977; Standley and Soule, 1974; Wisniewski, 1978); parental identification (Hennig and Jardim, 1977; Nagely, 1971; Ridgeway, 1978; Standley and Soule, 1974; and many others); childhood activities (Hennig and Jardim, 1977; Navardi, 1979; Standley and Soule, 1974; Steinberg, 1978); and the influence of specific people in occupational choice (Almquist, 1974; Almquist and Angrist, 1970; Lemkau, 1978; Steinberg, 1978; Tangri, 1972; and Wisniewski, 1978). Other studies have also looked at employment history (Almquist, 1974; Almquist and Angrist, 1970); and different work values in relation to job satisfaction (Almquist, 1974; Almquist and Angrist, 1970; Greenfeld et.al., 1980; Navardi, 1979).

Many studies have explored the personality characteristics and

sex-role orientations of women in non-traditional occupations. Broverman, Vogel, Broverman, Clarkson and Rosenkrantz (1972) studying personality traits associated with the ideal male and female, found that,

> Males in our society are stereotypically perceived as being independent, objective, active, competitive, logical, skilled in business, worldly, adventurous, able to make decisions easily, self-confident, always acting like a leader, ambitious. A relative absence of these traits characterizes the stereotypic perception of women, that is relative to men, women are perceived as being dependent, subjective, passive, non competitive, etc. The female stereotypic items on the other hand consist of attributes such as gentle, sensitive to the feelings of others, tactful, religious, neat, quiet, interested in art and literature, able to express tender feelings. (p.68).

These adjectives portray men as competent doers and females as emotional feelers. Research on the personality characteristics of women in non-traditional professions indicate that these women perceived themselves as having "masculine" personality traits related to "competence" (Bachtold, 1976; Coplin and Williams, 1978; Crawford, 1978; Helson, 1971; Lemkau, 1978; O'Leary and Braun, 1972; Ory and Helfric, 1978; Steinberg, 1978; Tangri, 1972; Vice, 1978; and Willis, 1978). The writer suggests that most people believe that women in the non-traditional trades also have a masculine sex-role orientation because they have to be tough and aggressive to survive in an occupation dominated by males. The traditional views of masculinity and femininity as occupying either end of a continuum have been criticized by Constantinople (1973) and Bem (1974). Bem (1974) states,

> This sex role dichotomy has served to obscure two very plausible hypotheses: first that individuals might be both masculine and feminine, both assertive

> and yielding, both instrumental and expressive depending on the situational appropriateness of these various behaviors and conversely that strongly sex-typed individuals might be seriously limited in the range of behaviors available to them as they move from situation to situation. (p.155).

Bem developed the Bem Sex-Role Inventory test which provides independent masculinity and femininity scores as well as a score for psychological androgeny. Psychological androgeny is a term that denotes the integration of femininity and masculinity within a single individual. Androgynous individuals are more adaptable in their behavior than sex typed individuals because androgynous individuals exhibit both masculine and feminine characteristics (Bem, 1975). Individuals who perceive themselves as traditionally masculine or feminine tend to avoid cross-sex behavior or report greater psychological stress when performing such behavior (Bem and Lenney, 1976). Bem's research implies that women in non-traditional occupations are more likely to be androgynous than women in traditional occupations.

Purpose of This Study

The purpose of this study was:

(1) To compare the personal background and personality characteristics, sex-role orientations and work values of women training in non-professional traditional occupations (medical laboratory technology, X-ray technology, secretarial work, ladies hair-styling) and non-traditional trades (cabinet-making, carpentry, electrical, mechanics and welding).

(2) To determine which of these factors relate to a woman's choice of traditional or non-traditional occupation.

This study is designed to be used by guidance counsellors, teachers and employers who want a better understanding of the factors which influence women to enter non-traditional trades. Counsellors and educators should be encouraging young women to explore a full range of occupational possibilities that are congruent with their abilities and interests rather than limiting their occupational exploration to traditionally female domains. The Royal Commission on the Status of Women (1970) states,

> Each female should be encouraged to be a person in her own right. Each female should be encouraged to discover her own particular gifts, talents, drives and to cultivate them for self expression and for contribution to society. Girls and women must be encouraged to seek self-fulfillment as human beings rather than as females. (p.4).

The information gained from this study could serve the school counsellors in directing girls interested in careers in non-traditional trades.

CHAPTER II LITERATURE REVIEW

Since little information is available about the career development for women in non-professional fields, this literature review will focus on women in professional occupations. Following a brief overview of the major theories of career development, this chapter will review the literature exploring the background and personality characteristics, sex-role orientations, employment-related variables and attitudes of women in, or training in, non-traditional occupations.

Theories of Career Development for Women

Several researchers have attempted to explain the process of career development. Tolbert (1980) defines career development as the life long process of developing work values, finding an occupational identity, learning about opportunities and trying out plans in part-time, recreational and full-time work situations. Career development involves increasingly effective investigation, choice and evaluation of various occupations. In this study, the term career refers to the succession of occupations one engages in during a lifetime while the term vocation refers to an occupation or a job.

Two well recognized theoretical approaches to occupational choice are those of Super (1957) and Holland (1966). Super's basic assumption is that an individual tries to find an occupation that matches his or her self-concept. Super describes five stages of career development: Growth (birth to age 14, characterized by occupational fantasy, and the development of a self-concept through

key figures in the family and school); Exploration (ages 14 to 21, characterized by the exploration, and trial of different occupations); Establishment (ages 22 to 35, characterized by the selection of a suitable occupation, and the development of job security); Maintenance (ages 35 plus, characterized by the stabilization or maintenance of oneself in the occupation); and Decline (ages 65 plus, characterized by the gradual slowdown of work involvement, and eventual retirement).

Trying to extend his theory to women, Super described three work patterns that were unique to women: Interrupted (for marriage and child-rearing), stable-homemaking (with homemaking viewed as a career), and double-tracking (working while raising children).

Holland (1966) related job satisfaction to the degree an individual is able to find a work environment that is congruent with his or her personality. Holland (1973, p.14-18) described six personality types (Realistic, Intellectual, Social, Conventional, Artistic, and Enterprising) and six matching work environments. The Realistic type (e.g. mechanic or surveyor) has a preference for activities that require the explicit, ordered or systematic manipulation of objects, tools, machines, or animals; the Investigative type (e.g. chemist, biologist) has a preference for activities that entail the observational, symbolic, systematic and creative investigation of scientific or cultural phenomena; the Social type (e.g. social science teacher, counsellor) prefers activities that inform, train, develop, and help others; the Conventional type (e.g. accountant, clerk) prefers activities that entail the explicit, ordered, systematic manipulation of data such as bookkeeping; the Artistic type (e.g. writer, artist) prefers ambiguous, free, unsystematized activities that entail the

manipulation of physical, verbal or human materials to create art forms or products and the Enterprising type (e.g. salesman, politician) prefers activities that require the manipulation of others to attain organizational goals or economic gain. Holland admits his theory is based on the study of men and is probably less useful in understanding the occupational choices of women.

The potential career development of women, although not functionally different than that of men, is a great deal more complex due to the combination of attitudes, role expectations, behaviors, and sanctions known as the socialization process. Osipow (1975) hypothesized that life circumstances have limited the number of occupational choices for women. He argues that the developmental stages of Super's theory do not accurately apply to women. During adolescence, women are often involved in a pseudo-exploration stage rather than a true exploration stage, because many of their career plans are tentative, and revolve around pending marriage plans. A more serious and persistent attitude towards work probably takes place when child bearing and rearing stages are over (usually in the late 20's and early 30's). Also, a woman may not be able to find an occupation that is congruent with her self-concept because of a perceived split in the role demands of wife, mother and worker. These divergent roles may result in frustration and internal conflict rather than in personal satisfaction. Fitzgerald and Crites (1980) criticized Super's theory, indicating that it is merely descriptive since no attempt was made to explain women's career development.

With respect to Holland's theory, the Realistic environment has been pretty well closed for women (Osipow, 1975). Sex-roles

restrict and inhibit women's considerations of all six work environments, whereas they don't for men. Psathas (1968) pointed out that Holland's theory does not account for the attraction of women into unfeminine occupations unless it assumes that such individuals are different. It ignores the possibility of changes in the social structure which allow women to enter traditionally "closed" occupations although there may not be any overall changes in women's personalities or sex-roles.

Psathas (1968) and Zytowski (1969) attempted to explain women's career development. Psathas believes an understanding of the factors involved in women's career choice must begin with an understanding of the relationship between sex-role and occupational role. Social class, education and occupation of parents, and marriage plans are important factors in the career decisions of women. Zytowski (1969) takes the position that the fundamental differences between the career development of men and women result from differences in roles, career developmental stages and other factors affecting the participation of women in the work force. He and Psathas hypothesize that women's career development is determined not only by occupational preferences but by internal and external factors (such as ability and financial resources) as well.

Because these theoretical approaches to women's career development have several limitations, Crites and Fitzgerald indicate that counsellors should be aware of the factors complicating the applicability of career development theory to women.

Personal Backgrounds of Women in Non-Traditional Occupations

Several studies have tried to determine the relationship between women's background characteristics and choice of traditional or non-traditional career. The background characteristics examined in this literature review were: family structure, religious and ethnic backgrounds, parental education, occupation and socio-economic status, parental values and relationships, childhood activities, employment history and the influence of others on subject's occupational choice.

Family Structure

The data in the literature examining birth order, sex of siblings, and family size were inconsistent. Women in non-traditional occupations were often reported to be first or only born children (Helson, 1971; Hennig and Jardim, 1977; Lemkau, 1978; Standley and Soule, 1974). This implies that the values and aspirations of the parents are especially focused on first or only born children. They are not only given more attention but are also generally expected to be high achievers. Other researchers found women in non-traditional professions came from all female families (Greenfeld et.al., 1980; Helson, 1971; Hennig and Jardim, 1977). Hennig suggested that women with no brothers are less constrained in the roles they play at home. In a study of 111 women pharmacists, teachers, nurse's aids and policewomen, Wisniewski (1978) found a stronger relationship between first or only born status and professional career rather than between first or only born status and non-traditional

career. Safilias-Rothschild (1972) speculated that:

> The fathers of women in non-traditional occupations have symbolically raised them as sons because they were the only child, or because, thanks to large gaps between them and other siblings they were in effect an only child or because all the children were girls and one was selected to play the role of a son. Or finally they may have been treated as boys because a brother refused to be a doctor or a lawyer, like the father, or refused to manage the family business and they are thus used as substitutes. (p.310).

In contrast to these studies, Kammeyer (1966), in a study of 209 unmarried college women, reported that first or only born children tended to have more traditional values about the feminine sex-role than later born children. Women who were first or only born were more likely to: prefer marriage to graduation from college; describe themselves as religious and agree with their parent's perceptions of the feminine role. Kammeyer described eldest born daughters as "conservators of culture" and hypothesized that the rate of social change is related to the demographic factor of family size. He speculated that social change regarding the feminine role will occur more rapidly when people start having larger families. However, Kammeyer did not try to explain why many women in the non-traditional professions are first or only born. Blau and Duncan (1967) reported a reverse trend; they found less role differentiation in smaller families.

A few studies reported no relationship between birth order and women's choice of traditional or non-traditional occupation (Shaefer, 1977; Schmidt, 1973; Steinberg, 1978). Although Crawford

(1978) found no relationship between birth order and occupational choice, the adjacent siblings of women in non-traditional fields were more likely to be brothers than the adjacent siblings of women in traditional occupations. This finding suggests that a close relationship with a sibling of the opposite sex may contribute to a woman's decision to enter a non-traditional occupation.

Research examining the relationship between occupational choice and family structure is inconclusive. Some studies report a strong relationship in these variables while others report no relationship. This suggests that the parental child-rearing practices and values may have a greater effect on women's occupational choice than birth order.

Ethnic and Religious Backgrounds

Very few studies looked at the ethnic and religious backgrounds of women in non-traditional occupations. Helson (1971) found 59 percent of a sample of 41 female Ph.D. mathematicians were born in America. Those born outside of the U.S. were born either in Europe or Canada. Constantini and Craik (1972) reported that all women politicians in their study were American born. Lemkau (1978) and Steinberg (1978) found most women in traditional and non-traditional occupations were American born.

No relationship was found in the religious affiliations of women in traditional or non-traditional occupations (Lemkau, 1978;

Steinberg, 1978). Both researchers reported the majority of women were from Protestant backgrounds. The majority of women in Lemkau's study were not religious.

In summary, most women in either traditional or non-traditional occupations in the United States tend to be native born. The data describing women's religious backgrounds is inconclusive and more research is needed in this area.

Parental Education, Social Class and Occupation

Women in non-traditional occupations with graduate or professional degrees tend to come from families with higher than average education, occupation and social class. Mothers of women in non-traditional occupations often have more education than mothers of women in traditional occupations (Almquist, 1974; Crawford, 1978; Lemkau, 1978; O'Donnel and Anderson, 1978; Steinberg, 1978; Tangri, 1972). Crawford (1978) examined the educational attainment of parents in a sample of 106 college women: 63 majoring in traditional fields and 43 majoring in non-traditional fields. Sixty-five percent of the women in non-traditional fields compared to only 44 percent of the women in traditional fields stated that their mothers had just as much or more education than their fathers. Fathers of women in non-traditional occupations were more educated and accepting of careers for women (Helson, 1971; Lemkau, 1978; Nagely, 1971; Tangri, 1972). Well educated parents seemed to have more liberal attitudes towards women working in non-traditional fields and to encourage their daughters to have high educational goals (Rapaport

and Rapaport, 1972). The higher the education of the parents, the greater the chance of encouraging non-traditional values in their daughters (Tangri, 1972).

Social class influences patterns of socialization. Kamarovsky (1962) reported that lower social class families were more traditional and less flexible in their perceptions of the female stereotype than middle or upper social class families while others (Douvan and Adelson, 1966; Vogel, 1970) argued that lower social class families encourage women not to accept traditional sex-role values. Wisniewski (1978) suggested that social class variables were more important than sex-role variables in determining occupational choice. Fathers of pharmacists (non-traditional) and elementary school teachers (traditional) valued education and encouraged their daughters to seek professional careers while fathers of policewomen and registered nursing assistants did not value post-secondary education and emphasized the importance of getting a job. Some researchers feel that social class is not as important as parents' education in the encouragement of non-traditional values (Breton, 1972; Broverman et.al., 1972). With the exception of Wisniewski (1978), many studies reported no differences in the social class of women in traditional or non-traditional occupations (Almquist and Angrist, 1970; Lemkau, 1978; Standley and Soule, 1974; Tangri, 1972 and Willis, 1978). These studies focused on women from middle class families. Thus, the data relating social class to sex-role idealogy and occupational choice is inconclusive.

In the literature, maternal employment emerges as a highly significant variable in women's career plans. Women in non-traditional occupations were more likely to have working mothers than women in

traditional occupations (Almquist, 1974; Almquist and Angrist, 1970; Altman and Grossman, 1977; Crawford, 1978; Lemkau, 1978; Standley and Soule, 1974; Steinberg, 1978; Tangri, 1972; Vogel, 1970). Although a few studies reported that women in non-traditional occupations had a greater chance of having a mother employed in a non-traditional occupation (Almquist, 1974; Tangri, 1972), most of the studies found no significant differences in type of maternal employment.

Broverman et.al. (1972) compared perceptions of appropriate sex-role behaviors between 23 college women whose mothers never worked outside the home, with 38 college women whose mothers worked outside of the home. Daughters of working mothers were more likely to value competence traits in women, such as autonomy, competitiveness and dominance, than daughters of non-working mothers. Daughters of both working and non-working mothers valued the warmth and expressive traits in women such as understanding, sensitivity, and nurturance. Broverman suggested women's perceptions of their sex-role may be influenced by the actual degree of role differentiation experience in their families. If the father is employed while the mother remains a full-time homemaker, the daughter perceives her parents' role as being different. If both parents are employed outside the home, their roles are more likely perceived as being similar, not only because the father is employed, but because he is more likely to share child-rearing and other family related activities with the mother.

Baruch (1976) suggested maternal employment did not influence the daughter's attitude toward combining work and homemaker roles. Whether a woman favors such a pattern depends on whether her mother endorses it, and, if her mother worked, how successful she was at

integrating the homemaker and work roles. If a mother worked, but experienced negative personal consequences because of career, the daughter valued highly competence characteristics in women but did not favor combining homemaker and work roles.

Altman and Grossman (1977) investigated the effects of working and non-working mothers on the career orientation of 51 undergraduate women. Daughters of contented working mothers or dissatisfied non-working mothers were more career-oriented than daughters of satisfied non-working mothers. Contrary to expectation, daughters of dissatisfied working mothers were career-oriented. A closer examination of the data showed that these mothers had low status jobs and were frustrated with being in a dead-end job. The more a woman emphasized home and family in her value system, the less likely she was to be career-oriented.

Tangri (1972) described two patterns of career-orientation, based on mother's education and occupation. Daughters of more educated and less educated working mothers were more likely to develop masculine interests and enter non-traditional occupations than daughters of more educated and less educated non-working mothers. This suggests that working mothers seemed to encourage achievement, and independence in daughters and emphasized the importance of work. Daughters of more educated non-working mothers are in conflict over a personal drive for success and achievement and a feminine model of values. Less educated, non-working mothers provide a conventional model in which aspirations are projected through a spouse.

Thus, there seems to be a relationship between mother's

occupational status and daughter's orientation towards either a career or homemaker role. The relationship is complex and is influenced by many factors such as education, social class, degree of mother's role conflict and attitudes of fathers towards employment.

Childhood Recollections

Reports of childhood activities, child rearing values and practices, and relationships with parents seemed to be related to women's choice of non-traditional careers.

When asked about preferred childhood activities, 54 percent of a sample of 151 women architects, lawyers, doctors and psychologists said they enjoyed "masculine" activities such as hiking and exploring, climbing trees, camping, and playing with boys, more than they did "feminine" activities such as doll play, cooking, sewing, taking care of younger children, playing with girls and helping mothers around the house (Standley and Soule, 1974). Fewer women (36 percent), most often the psychologists, enjoyed the "feminine" activities more than the "masculine" activities. The business executives in the study of Hennig and Jardim (1977), believed that their parents encouraged them to explore both masculine and feminine behaviors. Women with Ph.D.'s in male-dominated fields (O'Leary and Braun, 1972) recalled being rebellious and independent children. These women preferred their own sex to opposite sex peers. The authors hypothesized that these women are not likely to be ardent women's liberationists as are women who have not been successful academically, since they do not see themselves as being defeated in the man's world. Navardi

(1979) found women in skilled trades preferred out-door activities, considered themselves as "tomboys" and frequently participated in sports during childhood.

By the subjects' accounts, parents of professional women valued educational achievement. Parents of women architects, lawyers, doctors and psychologists valued accomplishment and were deeply involved in their daughters' achievements. Subjects felt that their parents encouraged good grades, self-discipline, reponsibility and intellectual curiousitv. These characteristics relate to competence and are thought to be encouraged more often in boys than girls (Standley and Soule, 1974). Other qualities, of a social or feminine nature encouraged by the parent were to: act like a girl should; be affectionate; and get along well with other children. Sixtv-six percent of the women thought that their parents valued qualities related to achievement more than qualities related to social competence while only 17 percent of the women said social qualities were more important to their parents. These women believed their parents were more concerned about their daughters' education than their occupational choice. Other researchers reported similar results (Baruch, 1976; Schaefer, 1977). Parents of women in professional fields, both traditional and non-traditional, fostered characteristics of independence and achievement in their daughters.

As noted earlier, parents employed in lower status jobs did not value education as much as getting a job (Wisniewski, 1978).

Women in non-traditional occupations often reported being treated as a special child and recalled being father's favorite (Helson, 1971; Hennig and Jardim, 1977; Standley and Soule, 1974).

In a sample of 40 women employed in traditional and non-traditional occupations (Nagely, 1971), the women in traditional occupations recalled feeling emotionally closer to their mothers than women in non-traditional occupations.

In contrast, Shaeffer (1977) reported no differences in parental identification between women students enrolled in non-traditional majors and their sisters, who were enrolled in traditional majors. As previously mentioned, the non-traditional women in Tangri's study (1972), felt they identified more with their employed mothers than with their fathers. Tangri also believes highly career-oriented women must develop an independent sense of self because they may not have the approval of others in their career decisions.

Ridgeway (1978) attempted to differentiate mother-identified women from father-identified women in a sample of 457 college women. Career orientation among mother-identified women was associated with extensive maternal employment and a liberal attitude towards women's roles in society. This group perceived themselves as very dissimilar from their fathers. For father-identified women, career orientation was directly associated with perceived similarity between self and father, less extensive maternal employment and a conventional attitude towards women's roles in society. The mother-identified women had more favorable attitudes about their achievement while father-identified women were more likely to perceive their careers as positively viewed by males. The author did not differentiate between traditional or non-traditional career orientation.

In summary, women in non-traditional fields recalled participating in both masculine and feminine activities and being unaware of

sex-related taboos. Their parents valued education and achievement. Many of the women recalled being father's favorite child and often perceived that they held a special position in the family. Mixed evidence regarding parental identification was recalled. Some women perceived themselves to be more similar to their fathers while others perceived a greater similarity to their mothers.

Factors Influencing Women to Choose Non-Traditional Occupations

People Who Encouraged Women to Choose Non-Traditional Occupations

Many women were encouraged to enter non-traditional occupations by university professors or people in the occupations (Almquist, 1974; Almquist and Angrist, 1970; Steinberg, 1978; Wisniewski, 1978). Sixty-seven percent of 44 senior college women in non-traditional fields, compared to 30 percent of 66 women in traditional fields mentioned either someone they knew who was employed in the chosen field, or more often, one or more professors (Almquist, 1974). These role models, whether male or female, stimulated the women's interest in the particular occupational fields. The role models helped the women understand the nature of the work role by helping her evaluate her own qualifications, performances and abilities and by encouraging her to attend graduate school.

In contrast, women in traditional majors reported some influence from peers but very often reported thinking no one had influenced their choice of occupation. Steinberg (1978) found home economists and doctors more often reported school-related people to have

supported their career aspirations than lawyers or nurses. Also, doctors and nurses recalled that an illness in the family or close friend in the medical field had influenced their decision to select a medical career.

Tangri (1972) found the support of a boyfriend in women's non-traditional career decisions was more important or influential than the encouragement of a university professor. Males such as fathers, boyfriends, teachers or counsellors were frequently reported to be sources of encouragement for women's non-traditional career aspirations while women in traditional careers frequently mentioned the support of female teachers, counsellors or relatives as influential in their career choices (Lemkau, 1978).

Although probably not as influential as parents, non-family members do have an influence on women's occupational choices.

Factors Pertaining to the Job

Women who selected non-traditional occupations had more previous work experience than women who selected traditional occupations (Almquist, 1974; Almquist and Angrist, 1970). Previous job experience gave women a chance to re-examine their career goals and think about selecting non-traditional careers. Almquist (1974, p.18) stated, "Work experience gave the pioneers a greater opportunity for refining and enlarging their self-concepts, for coming in contact with occupational role models and for working in jobs that were related to the particular jobs they came to prefer."

College women in both traditional and non-traditional fields

were strongly oriented towards occupations that allowed them to combine career and family responsibilities and gave them freedom from close supervision. They were moderately interested in a stable and secure future and were not interested in high prestige. Women in non-traditional occupations valued job content (Andrisini and Shapiro, 1978; Navardi, 1979), high income (Almquist, 1974; Almquist and Angrist, 1970; Navardi, 1979), job challenge (Navardi, 1979) and jobs that utilized their special abilities (Almquist, 1974). Women in traditional occupations valued occupations where they could work with people rather than things; have the opportunity to help others; and suit parents' idea of success (Almquist, 1974; Angrist and Almquist, 1970). Women in non-traditional occupations were more success oriented than women in traditional occupations (Greenfeld et al. 1980). Women in non-traditional fields valued recognition, a high salary, authority and responsibility as important indices of success. Contrary to expectation, women in traditional occupations perceived their work as more important and were more satisfied with their work accomplishments than women in non-traditional fields.

Women in the skilled trades left previous jobs for higher pay and greater opportunities for advancement (Navardi, 1979). Better benefits and working conditions were regarded as secondary reasons. Steinberg (1978) reported women in traditional occupations left their jobs to move to a new location or accept a more desirable position while homemakers left because of marriage or pregnancy. No consistent reason was given more often by women in non-traditional fields than women in traditional fields.

In summary, the research suggests that women in non-traditional

occupations had a greater variety of previous job experiences than women in traditional occupations. Women in non-traditional occupations valued jobs which utilized their special skills, gave them independence, a high income, and the opportunity for advancement.

Personality Characteristics of Women in Non-Traditional Occupations

Several studies have explored the personality characteristics of women in non-traditional occupations. Bachtold and Werner studied the personality characteristics of 863 women psychologists (1970), biologists and chemists listed in Who's Who in America (1972); writers and artists (1973) and politicians in state legislatures (Werner and Bachtold, 1974) using the Catell 16 PF, a personality test which yields 16 measures of dimensions of personality. Bachtold (1976) also compared the personality profiles of the women within this research series with the personality profiles of a comparable sample of men employed in identical occupations. The women in the six fields were more intelligent, independent, assertive, adventurous and less conventional on Catell's dimensions of personality than the women in the general population (norms). Except for politicians, all women in this series were more socially aloof than women in the general population.

The women in this research series differed on personality characteristics which were adaptive to their professional roles. The psychologists were more flexible, liberal and accepting; the scientists were more serious, reserved and tough-minded; the artists and writers were more spontaneous, imaginative and natural, while

the politicians were more sociable, conscientious, self-controlled and group dependent.

Women psychologists, biologists, chemists, artists and writers were more similar in personality to men employed in the same occupations than to women in the general population. Psychologists were intelligent, assertive, adventuresome, sensitive, confident and liberal. Biologists and chemists were intelligent, socially aloof, assertive, serious, confident and independent. There was only one personality trait in which the men and women scientists scored in opposition to their respective sex norms: the men were found to be highly sensitive and the women were tough minded. Artists and writers were intelligent, socially aloof, assertive, adventurous, imaginative, liberal and independent.

In a similar study (O'Leary and Braun, 1972), women with Ph.D.'s in non-traditional fields did not differ from women with general B.A. degrees on measures of social aloofness, assertiveness, emotional stability and independence but the Ph.D.'s felt they had more of these characteristics than a comparable sample of men. Women and men Ph.D.'s were equally imaginative, free thinking and radical. The men and women Ph.D.'s and the women B.A.'s perceived themselves as equally intelligent. This pattern suggests that women perceive themselves as having more of the "right" qualities. The women may not necessarily have more of the "right" qualities than men but they rated themselves higher on these personality measures than the men did.

Lemkau (1978) compared the personality profiles of 64 women in non-traditional occupations (marine scientist, geographer, pharmacist, urban planner, chemist, engineer, computer scientist, manager, school administrator, sociology teacher, physicist, mathematician, financier, economist and marketer), and 71 women in traditional occupations (home economist, elementary school teacher, librarian, nurse and speech pathologist) using the Catell 16 PF personality test. All women held a masters degree and worked at least 20 hours per week. Women in both groups of occupations were more intelligent, assertive, independent and less conservative than women in the general population (norms). Women in non-traditional occupations were more reserved, tough-minded, assertive than women in traditional occupations. Women in both occupational groups perceived themselves as competent. Lemkau attributed this finding to the high educational status of the women rather than to their occupational choice.

Willis (1978) examined the relationship between personality and occupational preference in a sample of 160 college women majoring in traditional and non-traditional fields. Using the Adjective Check List Questionnaire, women were asked to circle the adjectives which best described them. Women choosing non-traditional occupations saw themselves as more aggressive, achievement oriented, dominant, self-controlled and independent than women selecting traditional occupations. According to the manual of the Adjective Check List, all traits listed by women in non-traditional fields were characterized

as being masculine. Women selecting traditional occupations described themselves as more nurturant, friendly, yielding and dependent than women choosing non-traditional occupations. The manual described these traits as being feminine. Willis concluded that there was a direct relationship between occupational role and sex-role. Coplin and Williams (1978) employed the Adjective Check List to assess descriptions of self and ideal lawyer among women law students. In addition, a general group of undergraduate women were also asked to describe themselves. The law students perceived themselves as more self-confident and autonomous than did the undergraduate women. However, the law students perceived the ideal lawyer to be more rational and less emotional than themselves. While the women law students and undergraduates described themselves to be relatively feminine, the law students' perception of the ideal lawyer was relatively masculine. The researchers proposed that the perception of the legal profession as requiring primarily masculine characteristics may discourage women from entering the law profession and may limit the occupational aspirations of women already in the field.

Tangri (1972) investigated the relationship between selection of non-traditional occupations and the background, personality and college experience of college women. Women in non-traditional occupations were autonomous, individualistic and motivated by internally imposed demands to perform to capacity. They also expressed more doubts about their ability to succeed and about their identity. Tangri suggested that "these doubts reflect the fact that the roles they have chosen are more difficult in standards of performance and more ambiguous in social meaning." (p. 197).

Women engineering students were more intellectually self-confident, self-reliant, career-committed and less emotional and altruistic than women students in other fields (Vice, 1978). These women had stronger interests in scientific, mathematical and mechanical activities and anticipated marrying later and having fewer children than other women.

Crawford (1978), and to some extent Ory and Helfrich (1978), found that college women in traditional majors were more conservative with respect to marital relations and family obligations. Those who had liberal attitudes in vocational, educational, intellectual and sexual behavior were more frequently in non-traditional fields.

Very few studies reported no differences between the personality profiles of women in traditional or non-traditional occupations. Steinberg (1978) explored the personalities of women doctors, lawyers, home economists and nurses and homemakers. When the women were grouped into the occupational categories of traditional (home economists and nurses), non-traditional (doctors and lawyers) or homemaker, no significant differences in measures of personality were found, but when the personality data of each subject was analyzed by specific occupation, differences on measures of personality emerged. Steinberg concluded that the personalities of women within each occupational category (i.e. non-traditional) were heterogenous.

Crawford (1978) found no significant differences between the personality profiles of college women in traditional or non-traditional fields. Crawford suggested that the measurement tool used (Adjective Check List) may not have differentiated the women in the two types of college majors because no information was available on the validity of

the personality measure used.

In summary, the literature suggested that women in non-traditional occupations perceived themselves to be high on personality characteristics associated with competence such as independence, dominance and self-confidence. The personalities of these women closely resembled those of men in the same occupation.

Sex-Role Orientation of Women in Non-Traditional Occupations

The Bem Inventory (Bem, 1974) treats masculinity and femininity as two independent measures. According to Bem, an androgynous person has integrated the characteristics of both masculinity and femininity into his/her own sex-role. Yanico et al. (1978) investigated the relationship of psychological androgyny to career choice among college freshmen. The Bem Sex-Role Inventory, and a set of rating scales measuring one's satisfaction with chosen field were given to a sample of: 71 women in engineering, 71 women in home economics and 71 men in engineering. When the mean scores of the 20 masculine and 20 feminine items were compared, women in engineering and home economics had similar feminine scores, but significantly different masculine scores. This implies that women in engineering do not necessarily describe themselves as less feminine than women in home economics, but do describe themselves as more masculine. Women in engineering described themselves as more feminine and less masculine than men in the same major. When women were classified into sex-types, an equal number of women in engineering (26) and home economics (25) perceived themselves to be androgynous.

More women in home economics (43 vs 30) perceived themselves as having a feminine sex-role orientation while more women in engineering (21 vs 9) perceived themselves as having a masculine sex-role orientation. The researchers concluded that females with an androgynous sex-role orientation are equally as likely to choose a traditional as a non-traditional field. Men and androgynous women in engineering were satisfied with and certain of their occupational choice, however, feminine-typed women were significantly less satisfied with and certain of their choice of major than were other women in engineering. Perhaps feminine-typed women in engineering perceive some degree of conflict in integrating their feminine sex role with the demands of the male oriented field. Vice (1978) investigated psychological androgyny in a sample of 200 women majoring in engineering, and 193 women in non-engineering majors. No significant differences on measures of androgyny were found between women in the different majors. (This article was in abstract form and no further details were given.)

Lemkau (1978) set out to determine if the scores on the Bem Sex-Role Inventory would significantly differ with the type of instructions given. Women in traditional and non-traditional occupations were asked to describe themselves in two different situations (on the job and in a social situation) and to describe their perceptions of the "ideal" woman. All women described themselves in both situations, and the "ideal" woman, as androgynous. Women in non-traditional occupations tended to score in a more masculine direction than women in traditional occupations in all three instructional "sets", but the difference in the androgyny scores was not statistically significant. Lemkau concluded that androgynous

sex-role orientation in women is related to educational attainment rather than choice of traditional or non-traditional occupation.

Garza (1978) reported differences in androgyny among women in traditional, moderate or non-traditional occupations. Women in non-traditional occupations had more masculine sex-role orientations and more liberal sex-role attitudes than other women (Shelov, 1978). Knox (1978) reported higher self-esteem in androgynous women.

These research findings support Bem's line of reasoning such that androgynous individuals are more flexible in their behavior and more likely to engage in cross-sex behavior. Androgynous women have a wider range of occupations from which to choose as they are not restricted in selecting only traditionally feminine occupations. Women with feminine sex role orientations are more likely to choose traditionally feminine occupations.

Role Conflict

In post-war, North American society, women were traditionally expected to stay home and look after the children while the men were expected to financially support the family. Today, women who choose to combine the multiple roles of wife, mother and worker often experience internal conflict because they have difficulty integrating the different roles. In a sample of graduate students enrolled in business administration, natural, and social sciences, women in business administration at the start of their program reported a general dissatisfaction with their personal, social and academic life (Terborg and Zalssay, 1978). They felt depressed, confused, unconfident and mentally and physically

exhausted. The women in business administration had difficulty integrating the demands of their studies with those of their families. The women were older, married with children and often worked part-time. By the end of the semester, the women in business administration reported being just as happy as other graduate students and some women reported more personal satisfaction than did the men. This study suggests that women in non-traditional fields are able to resolve the conflicts between sex-role and occupational role with time. Even though a sample of women physicians reported satisfaction in their careers, 50 percent of the women had difficulty integrating family and career roles (Cartwright, 1978). Women who scored exceptionally high on measures of career satisfaction and role harmony were very confident, bright, tolerant and knew what their priorities were. Nagley (1971) found mothers working in non-traditional occupations were more successful in integrating the roles of homemaker and worker than mothers working in traditional occupations. The mothers in non-traditional occupations perceived their careers as satisfying, necessary, permanent and liberating. They felt that their husbands should help with housework and childcare and often said they would not give up or modify their careers for their husbands.

In contrast, Wisniewski (1978) reported the married women in his study were concerned about the conflicting demands of work and home. Women in the non-professional occupations (policewomen and nursing aides) reported more conflict than women in the professional occupations (pharmacists and teachers). Wisniewski suggested professional women had more alternatives in dealing with these demands. The

policewomen and nursing aides were more likely to report they had to work for financial reasons or that working conditions such as shift work interfered with their family obligations than were women in professional occupations.

On the other hand, over half of a sample of women architects, lawyers, physicians and psychologists felt they had more emotional problems than the average woman and reported more difficulty in coping with them (Standley and Soule, 1974). The architects reported the most stress while the psychologists reported the least, suggesting the more non-traditional the job the more difficulty women had integrating the demands of career and sex-roles. Women politicians expressed some degree of doubt and concern about their place in society even though they perceived themselves as self-confident, effective and ambitious (Constantini and Craik, 1972).

Thus, the literature suggested that the woman who decides to work is likely to experience feelings of guilt from the role conflict induced by significant others in her life. The degree of conflict women experience relates to the attitudes of their husbands, children, parents, and others towards working women.

Attitudes Concerning Working Women

Attitudes and tradition play an important role in deciding what is important in the labor market and society. The traditional division of labor views the woman's place to be in the home while the man supports his family. Although the home and family structure have changed, since nearly half of the women over the age of 15 are actively involved in the labor market, traditional attitudes still

exist regarding where women should work.

Among women themselves, the view is often held that women are less suited for management and authority roles. Hawley (1972) interviewed women in professions of math/science, counselling and teaching about their attitudes towards women working in non-traditional fields. Counsellors and women in math/science felt that women could compete with men in areas considered to be male domains. They believed that women could perform in business or professional areas without jeopardizing their marriages, families or femininity. In contrast, teachers felt that men were more qualified in financial matters and women were qualified to make decisions in the home. Other internal psychological factors inhibiting women from entering managerial positions or occupations dominated by men included fear of failure, low self-esteem, role-conflict and the perceived consequences and incentives for engaging in achievement-related behavior (Di Sabatino, 1976, O'Leary, 1974; Rossi, 1965).

McLure and Piel (1978) assessed the perceived barriers, information needs and facilitating factors related to the consideration of science/technology careers as identified by a major national sample (1,017) of bright senior high school women. Results indicated that relatively few girls choose careers in science and technology because: (1) they had doubts about combining family life with a science career; (2) they lacked information about steps in preparing for a science career; (3) they felt a lack of encouragement from teachers and school counsellors; and (4) they saw few examples of the important role women can play in science.

Traditional beliefs are also reinforced by the attitudes and

actions of employers who believe that women are more suited for certain types of jobs than others. These attitudes often result in discrimination which may be due to misinformation, tradition, prejudice, and concern for job security (Corcoran and Duncan, 1979). Only 20 percent of the women in Standley and Soule's study (1974) perceived no discrimination in their profession and almost one quarter of the subjects reported some aspect of their occupation which was uncomfortable because of their sex. Subjects reported discrimination in the following areas: (1) hiring and salary setting (70 percent); (2) promotion and advancement (68 percent); and (3) not being accepted by professional peers (46 percent). The authors suggested that such perceptions may reflect a greater consciousness of a minority status than actual discrimination. The Women's Bureau (1971) found that many of the popular beliefs that people had about working women are not supported by statistical findings. Such myths include: (1) women workers are ill more often than men workers; (2) a woman's place is in the home; (3) women are not seriously attached to the labor force; and (4) women work only for pin money.

In a recent survey conducted by Navardi (1979) among 489 employers, male and female skilled labor workers and unemployed women, younger men were more accepting of women in male dominated occupations than were older men. Two-thirds of the employers felt that women were capable of learning most skilled-trades. Women received less harassment from men in eye/hand coordinated jobs than they did in jobs requiring physical strength.

In addition, husbands play a very powerful role in the attitude women have about working. Husbands who share in family responsibilities

and have a positive attitude about their wives working, create an environment where the wife can work without feeling guilty about combining the roles of wife, mother and work.

In summary, the literature suggests that the attitudes of women themselves, their husbands, employers and co-workers can either facilitate or restrict movement of women into occupations dominated by men.

Overview of the Literature

The data in the literature review suggests women in traditional and non-traditional occupations differ in background and personality characteristics. Women in non-traditional occupation tended to have well educated parents who encouraged their daughters to be independent, intellectual, curious and achievement oriented. These women felt they had a "special" status in the family because of their first or only born positions or their close relationship with their fathers. As a result, these women felt their parents expected more from them. The women in non-traditional fields were adventurous as children as they participated in both masculine and feminine behaviors. The women were exposed to a wide variety of role models such as working mothers or men or women in particular occupations. Although these women received much support and encouragement from important people in their lives, they reported some degree of discrimination from employers and co-workers who believed a woman's place was in the home. As well, some of the married women had difficulty integrating the roles of homemaker and worker. The attitudes of husbands, employers, co-workers and women themselves play a key role in a

woman's acceptance of her non-traditional work role.

There were several shortcomings in the research relating to women's occupational choice. Almost all studies focused on women in professional occupations. Very few studies examined factors relating to the occupational choice of women in non-professional occupations, let alone women in non-traditional non-professional occupations. Some of the studies assumed women in non-traditional occupations were different but excluded comparison groups (Bachtold and Werner series; Crawford, 1978; Standley and Soule, 1974). Much of the research was built around the expectations of high school or first year university students. Very few studies investigated factors relating to career choice in employed women. Several authors did not explain the meanings of personality adjectives used (i.e. enterprising, conventional, succordant, abasement, etc.).

Several methodological weaknesses were noted. Some studies were not representative of the general population because of small sample size or low response rate in the survey (Crawford, 1978; Nagely, 1971). In many of the articles comparing the personality characteristics between women in traditional and non-traditional occupations, an inappropriate method of analysis was used - the student's t-test. The t-test treats each variable as if it came from an independent population and results in a high probability of a type 1 error (finding a significant difference between two variables when there is no real difference). The researchers used many different types of personality tests (Catell 16 P-F, Adjective Check List, Personality Research Form, California Personality Test) which made the results difficult to compare as the tests may have been measuring different concepts of

personality.

To date, the literature examining the factors which relate to women's occupational choice has been almost exclusively on women in professional occupations. The findings of these studies may not apply to the occupational choices of women in blue-collar occupations. This study will focus on the factors relating to occupational choice of women training in blue-collar non-traditional occupations by comparing them to women in traditional occupations.

Questions Asked in This Study

Questions were designed to determine if there were any relationships between women's personal background characteristics, personality characteristics, sex-role orientation, work values and choice of traditional or non-traditional occupation.

Personal Background Characteristics

1. Were there any significant relationships between the women's demographic characteristics and choice of traditional or non-traditional occupation? Specifically, did the women differ significantly in:
    a. Age, marital status, number of children, birthplace, religion, education and number of jobs held.
    b. Family size, birth order and number of brothers.
    c. Parental marital status, birthplace and occupation.

Factors Influencing Women to Choose Non-Traditional Occupations

2. Were there any significant relationships between various factors in the women's personal background and choice of traditional or non-traditional occupation? Specifically, did the women differ significantly in:

   a. Childhood activities.
   b. Plans for combining motherhood and work roles.
   c. Effect of working and non-working mothers on occupational choice.
   d. Support or encouragement received from others.
   e. Discouragement received from others.

3. Why did the women choose their particular occupations?

Personality Characteristics

4. Did the women in traditional or non-traditional fields differ significantly in personality, as measured by Personality Research Form (Jackson, 1967)?

Sex-Role Orientation

5. Did the women in traditional or non-traditional fields differ significantly in sex-role orientation, as measured by the Bem Inventory (Bem, 1978)?

Work Values

6. Did the women in traditional or non-traditional fields differ significantly in values relating to job satisfaction, as measured by

the Work Values Inventory (Super, 1970)?

CHAPTER III METHOD

Questionnaires designed to assess background and personality characteristics, sex-role orientation and work values were sent to women training in traditional occupations and non-traditional trades. The following method will outline: subjects, materials, procedures, and statistical analysis of data.

Subjects

A training program was considered traditional if at least two-thirds of its students were female and non-traditional if at least two-thirds of its students were male. Registration lists from the Northern Alberta Institute of Technology and the Alberta Apprenticeship and Trades Certification Branch were used to calculate the percentage of women enrolled in the nine training programs (Appendix 2, Table 1). The percentage of women in the apprenticeship programs are much smaller than the traditional one-third and are even slightly inflated when compared to the number of people working in the field.

The following 239 women were chosen as potential subjects for the study:

Traditional Fields:

1. Medical laboratory technology, N = 37
2. X-ray technology, N = 38
3. Secretarial arts, N = 40
4. Ladies hair-styling, N = 25

Non-Traditional Fields:

1. Cabinet-making, N = 15

2. Carpentry, N = 15
3. Electrical, N = 30
4. Mechanics, N = 13
5. Welding, N = 26

Subjects in the traditional fields (with the exception of those in ladies hairstyling, a one year program) were registered second year students at the Northern Alberta Institute of Technology. Subjects in the non-traditional fields consisted of all the women registered as apprentices in the five chosen trades in Alberta (includes Northwest Territories and Yukon). Since there were so few female apprentices, no distinction was made regarding the year of their program.

Materials

Each participant received a package containing: (1) a cover letter; (2) a Background Questionnaire; (3) a Personality Research Form; (4) a Bem Inventory; (5) a Work Values Inventory; and (6) a stamped return envelope. Each subject also received a reminder card.

Cover Letter

The cover letter (Appendix 1-A) explained the purpose of the study, the confidentiality of the results and the approximate time required to complete the set of questionnaires. Each subject was given the option of receiving a personal interpretation of her results as well as receiving a summary of the results of the study.

Background Questionnaire

The background questionnaire (Appendix 1-B) was designed to assess the relationship between the subjects' personal background and choice of traditional or non-traditional occupation. The background questionnaire, composed of 29 questions, took approximately 15 to 20 minutes to complete. All questions, except for numbers 23 and 25, were of a fill in the blank or essay type. Question 23 was in the form of a five point Likert-type scale, while question 25 was in the form of a multiple response. The subjects' answers in the background questionnaire were coded for statistical analysis (Appendix 2, Table 2).

Personality Research Form: Form A (Jackson, 1967)

The Personality Research Form (PRF), measuring 14 personality traits (Appendix 2, Table 3), was used to determine whether subjects in traditional or non-traditional fields differed significantly in personality. In addition to the 14 personality scales, the PFR has one validity scale which assessed the validity of the subjects' responses. The PRF consists of 300 questions with 20 questions composing each scale. Form A of the PRF takes approximately 30 to 45 minutes to complete and is hand scored.

The PRF was reported to be a reliable personality test (Buros, 1978). Jackson reported a median reliability of .93, with reliability scores ranging from .89 to .94 for the 14 personality traits. Test-retest reliability in a period of one week ranged from .77 (Autonomy) to .90 (Harmavoidance). Jackson (1967) presented validity data for the PRF.

The Bem Inventory (Bem, 1978)

The Bem Inventory was chosen to test the relevance of Bem's concept of androgyny to women's non-traditional occupational choice. The Bem Inventory consists of 60 personality characteristics: 20 considered feminine; 20 considered masculine; and 20 considered neutral. An individual is asked to indicate, on a 7 point scale, how well each of the 60 adjectives describe him/her. The scale ranges from 1 (never or almost never true) to 7 (always or almost always true). On the basis of an individual's response to the 60 personality adjectives, the subject receives three major scores: a Masculinity score, representing the mean endorsement of masculine items; a Femininity score, representing the mean endorsement of feminine items; and an Androgyny score, representing the difference between the Masculine and Feminine scores. Recently, Bem (1977) differentiated between individuals who scored high on both Feminine and Masculine socres from those who scored low on both scores. Bem considered the latter individuals to be different from the androgynous individuals. Based on a median split technique, Bem classified an individual's sex-role orientation as:

Feminine (femininity score ≥ 4.90, masculinity score < 4.95);

Masculine (femininity score < 4.90, masculinity score ≥ 4.95);

Androgynous (femininity score ≥ 4.90, masculinity score ≥ 4.95) or

Undifferentiated (femininity score < 4.90, masculinity score < 4.95).

According to Bem, a woman with a high Femininity score and low Masculinity score is sex-typed; a woman with a high Masculinity score and low Femininity score is sex-reversed; and a woman with

high Femininity and Masculinity scores is androgynous.

Bem reports good internal consistency with coefficient alphas of .78, .86, and .82 for the respective Femininity, Masculinity and Androgyny scores in the normative sample (816 male and female students at Stanford University in 1978). Regarding test-retest reliability, the correlations between first and second administrations, four weeks later, were .80, .94 and .88 for the respective Femininity, Masculinity, and Androgyny scores in females and .89, .76, and .86 for the respective Femininity, Masculinity and Androgyny scores in males. Gaudreau's (1977) factor analysis of the BSRI supports its two major constructs, the independent Masculinity and Femininity scales.

Work Values Inventory (Super, 1970)

The Work Values Inventory (WVI) measuring 15 values (Appendix 2, Table 4) that relate to job satisfaction was used to determine if subjects in traditional or non-traditional fields differed significantly in work values. The WVI consists of 45 questions, with three questions comprising each scale. The subject is asked to assess the relative importance of each statement on a five point Likert-type scale. The scale ranges from 5 (Very Important) to 1 (Unimportant). The relative importance that the subject places on each work value is calculated by adding the responses of the three items of each scale.

Super (1970) found the 15 scales to be internally consistent and stable over a time period of two weeks. Test-retest reliabilities range from a low of .74 (Associates) to a high of .88 (Economic Return). Super did not report any data concerning the validity of the test.

Procedure

Data packages containing the questionnaires were assembled and distributed to women completing the traditional programs at the Northern Alberta Institute of Technology in June and July by class instructors. The data packages were not mailed out because of a mail strike. The data packages were mailed to women apprentices in September by the Alberta Apprenticeship and Trades Certification Branch.

When the questionnaires were returned, they were hand scored and coded for statistical analysis. Following the analysis, a written personal interpretation of the subject's responses on the Personality Research Form, the Bem Inventory and the Work Values Inventory was sent to those who had requested feedback. A copy of the abstract was sent out after the thesis was completed.

Analysis of Data

Three statistical methods were employed in this study: Chi-square (X^2), Analysis of Variance (ANOVA), and Hotellings T^2. A X^2 was used on categorical (ordinal) variables such as birth order, marital status, and sex-role orientation. An ANOVA was used on numerical (interval) variables such as age, number of brothers, femininity and masculinity scores. A Hotellings T^2 was used to determine if there was a significant difference between the means of the 14 personality variables and the 15 work value variables. Two-tailed tests were used with X^2 and Hotellings T^2 because no directionality had been predicted. The .05 level of significance was

employed as the level of significance for all analyses.

No statistical analysis was performed on multiple response questions. A multiple response question was one in which the subject gave more than one answer to the question. For example, a subject may have given more than one reason as to why she chose a particular occupation.

CHAPTER IV RESULTS AND DISCUSSION

The results are presented and discussed in the following five sections: Return Rate of Questionnaires; Personal Background Characteristics; Factors Influencing Subjects Occupational Choice; Personality Characteristics; Sex-Role Orientation; and Work Values.

Return Rate of Questionnaires

Sixty-one percent (145/239) of the total sample returned fully or partially completed questionnaires, however, only 57 percent (136/239) of the questionnaires were useable. This resulted in a useable sample of 89 subjects (64 percent) in traditional fields and 47 subjects (48 percent) in non-traditional fields. Table 5 of Appendix 2 gives a detailed description of the return rate for the subjects in each of the nine occupations. Five sets of questionnaires returned by subjects in traditional fields were excluded from the analysis because two or more sections of the questionnaire were not completed or the subject's score on the validity scale of the Personality Research Form indicated that the responses were not valid. Four sets of questionnaires returned by subjects in non-traditional fields were excluded from the analysis. One of these was returned after the data had already been analyzed and three subjects had changed occupations.

Subjects in the traditional fields returned a greater percentage of questionnaires than subjects in non-traditional fields. Perhaps subjects in traditional fields could have felt more obligated to complete the questionnaires because they were distributed by class

instructors. An interesting observation was that 89 percent of subjects in non-traditional fields, compared to only 21 percent of subjects in traditional fields, requested an interpretation of their results and a summary of the findings of the study. Perhaps subjects in non-traditional fields are more interested in the results of this study because they realize that they have chosen a career path that is different from that of most women.

Results of the Questions Asked in This Study

1. Personal Background Characteristics

Were there any significant relationships between subjects' demographic characteristics and choice of traditional or non-traditional occupation? Specifically, did the subjects differ significantly in variables of:

a. Age, Marital Status, Number of Children, Birthplace, Religion, Number of Jobs Held and Education

Subjects were found to differ significantly in age, marital status and number of jobs held (Table 1). Subjects in the non-traditional fields were significantly older than subjects in the traditional fields ($F(1, 134)=33.015$, $p<.001$). Table 6 of Appendix 2 shows the age distribution of the subjects. A significant relationship was found between subjects' marital status and choice of traditional or non-traditional occupation ($X^2(4)=28.45$, $p<.001$). Although the majority of subjects were single (Table 1), a higher percentage of subjects in non-traditional fields were married or living common-law.

Table 1. Subjects' Age, Marital Status, Number of Children, Birthplace, Religion and Number of Jobs Held.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Age***	$\bar{x}$=21.11 S.D.=4.03	$\bar{x}$=25.68 S.D.=5.07
Marital Status***		
single	89.9%	55.3%
married	6.7%	29.8%
common-law	0.0%	12.8%
separated/divorced	1.1%	2.1%
widowed	2.2%	0.0%
Number of Subjects' Children		
none	93.3%	74.5%
one	2.2%	12.8%
two or more	4.5%	12.8%
Place of Birth		
In Canada	96.6%	87.2%
Out of Canada	3.4%	12.8%
Religion	N=78	N=42
Protestant	50.0%	64.3%
Catholic	44.9%	28.6%
Agnostic	5.1%	7.1%
Number of Jobs***	$\bar{x}$=1.37 S.D.=1.54	$\bar{x}$=3.34 S.D.=2.55

*** $p < 0.001$

a = 89, b = 47 except where indicated

Few subjects reported being separated, divorced or widowed. Subjects in non-traditional fields had held significantly more jobs than subjects in traditional fields ($F(1, 134)=31.393$, $p<.001$).

Table 2 summarizes the subjects' data on educational history. Subjects were asked to report the highest grade completed, the type of secondary program enrolled in and the type of degrees or diplomas received. A significant relationship was found between highest grade completed, and choice of traditional or non-traditional field ($X^2(4)=14.24$, $p<.01$). Although the average grade completed for all subjects was grade 12, more traditionals (94.5 percent) than non-traditionals (74.3 percent) completed grade 12. With the exception of one subject in medical laboratory technology, all subjects in the traditional fields of medical laboratory technology, X-ray technology and secretarial arts had completed grade 12 while only 66.7 percent of the subjects in ladies hair-styling had completed grade 12. In the non-traditional fields, 87.5 percent of the carpenters, 80 percent of the cabinet-makers and electricians, 67.5 percent of the mechanics and 61.5 percent of the welders completed grade 12. A significant relationship was found between type of secondary program (academic, business/general or vocational) and choice of occupation. Although a majority of the subjects had been in academic programs, the subjects in traditional fields reported being in academic programs more often (78.4 percent vs 67.4 percent) than the subjects in non-traditional fields. In the traditional fields, all subjects in medical laboratory and X-ray technology and the majority of subjects in secretarial arts (58.3 percent) and ladies hair-styling (54.5 percent) were in academic programs. In the non-traditional fields, all subjects in cabinet-

Table 2. Subjects' Educational Status.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Secondary Education**		
Grade 9	0.0%	4.3%
Grade 10	1.1%	4.3%
Grade 11	4.5%	17.0%
Grade 12 and 13	94.5%	74.3%
High School Program*	N=88	N=43
Academic	78.4%	67.4%
Business/General	21.6%	25.0%
Vocational	0.0%	7.0%
Post-Secondary Education[c]		
Technical Diploma	5.6%	6.3%
University Degree	3.4%	6.3%
Some University Education	4.5%	2.1%
Other Diplomas	1.1%	2.1%

** $p < .01$

* $p < .05$

a = 89

b = 47, except where indicated

c = Multiple Response Question (no statistical analysis performed)

making and the majority of subjects in carpentry (87.5 percent) and electrical work (80.0 percent) were in academic programs. Subjects in mechanics were just as likely to have been in academic programs as business or general programs (50.0 percent) while the majority of subjects in welding were in business or general programs (66.7 percent). No substantial differences were reported in the post-secondary education of subjects in traditional or non-traditional fields. Very few subjects in either traditional or non-traditional fields received a university degree (3.4 percent and 6.3 percent, respectively) or at least one year of university training (4.5 percent and 2.1 percent). Almost equal numbers of women in traditional and non-traditional fields had previous technical diplomas (5.6 percent and 6.3 percent respectively).

Subjects in traditional and non-traditional fields did not differ on the variables of number of children, birthplace or religion (Tables 1 and 2). The majority of subjects in traditional or non-traditional fields had no children (93.3 percent and 74.5 percent respectively), were born in Canada (96.6 percent and 87.2 percent respectively) and were Protestant (50.0 percent and 64.3 percent respectively).

b. Family Size, Birth Order and Number of Brothers

Table 3 shows that subjects in non-traditional fields came from significantly larger families ($F(1, 134)=10.66$, $p<.01$) and had significantly more brothers than women in traditional fields ($F(1, 134)=10.00$, $p<.01$).

No significant difference was found in birth order (Table 3).

Table 3. Subjects' Family Size, Birth Order and Number of Brothers.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Family size**	$\bar{x}$=3.56, S.D.=1.54	$\bar{x}$=4.53, S.D.=1.83
Birth Order		
1st or only born	33.7%	38.3%
2nd born	33.7%	19.1%
3rd born	18.0%	21.3%
4th born	7.9%	8.5%
5th born	3.4%	8.5%
6th born	2.2%	4.3%
7th or later born	1.1%	0.0%
Number of brothers**	$\bar{x}$=1.34, S.D.=1.19	$\bar{x}$=2.09, S.D.=1.47

** $p < .01$

a = 89

b = 47

The largest number of subjects in traditional fields were as likely to be first born or only born (33.7 percent) as second born (33.7 percent) while subjects in non-traditional fields more often reported to be first or only born (38.3 percent).

Thus, subjects in non-traditional fields differed from subjects in traditional fields in family size and number of brothers but not in birth order.

c. Parental Marital Status, Birthplace and Occupation

No significant differences were found on variables of parent's marital status or birthplace. Table 4 shows that the majority of subjects in traditional and non-traditional fields had parents who were married and born in Canada.

Subjects were asked to indicate what their father's occupation had been when the subjects were from five to 18 years old. Table 4 provides information on the father's occupation. The father's occupation was classified according to the United States Job Classification (Appendix 2, Table 7). Subjects often reported that their fathers had been employed in more than one occupation during this time. No statistical analysis was performed on this question because of its multiple response nature. Fathers of subjects in traditional and non-traditional fields were employed most often as craftsmen (30.6 percent and 38.3 percent respectively). The percentage of subjects in the traditional fields who had fathers employed as craftsmen ranged from 25 percent for subjects in medical laboratory technology to 36.4 percent for subjects in ladies hair-styling. In the non-traditional fields, 16.7 percent of apprentice mechanics compared to 53.3 percent

Table 4. Marital Status, Birth Place and Occupation of Subjects' Parents.

Variable	Subjects in Traditional Fields[a]		Subjects in Non-Traditional Fields[b]	
Parent's Marital Status				
Married	83.1%		70.2%	
Separated/Divorced	10.1%		12.8%	
Mother Deceased	3.4%		14.9%	
Father Deceased	3.4%		2.1%	
Parent's Birthplace	Mothers (N=86)	Fathers (N=86)	Mothers (N=46)	Fathers (N=46)
In Canada	80.2%	79.1%	67.4%	65.2%
Out of Canada	19.8%	20.9%	32.6%	34.8%
Parent's Occupation[c]	Mothers (N=85)	Fathers (N=85)	Mothers (N=47)	Fathers (N=46)
Professional	12.9%	15.3%	19.1%	17.0%
Farmer	-	18.8%	-	19.1%
Manager	3.5%	18.8%	2.1%	8.5%
Clerical	22.4%	-	23.4%	2.1%
Sales	2.4%	3.5%	2.1%	2.1%
Craftsman	1.2%	30.6%	2.1%	38.3%
Operative	-	5.9%	-	17.0%
Service Worker	8.2%	5.9%	8.5%	6.4%
Laborer	-	3.5%	2.1%	4.1%
Housewife	53.4%		46.8%	

a = 89, b = 47

c Multiple response question, no statistical analysis done on this variable. The percentage response in the categories may add up to more than 100% since more than one answer may have been given. Source: United States Job Classification.

of apprentice electricians had fathers who were employed as craftsmen.

Thus, the data suggested that subjects in traditional and non-traditional fields had fathers who were employed in similar occupations.

Subjects were asked if their mothers worked outside of the home when subjects were five to 18 years old and to indicate what occupation mother was employed in.

No significant difference was found in mother's employment. Mothers of subjects in traditional fields were just as likely to work outside of the home as mothers of subjects in non-traditional fields (46.6 percent and 53.2 percent respectively).

Mothers of subjects in traditional and non-traditional fields were primarily employed in clerical (22.4 percent and 23.4 percent respectively) or professional (12.9 percent and 19.1 percent respectively) occupations. Only one subject in each of the occupational categories had a mother who was employed in a non-traditional field. Overall, the working patterns of mothers of subjects in traditional and non-traditional fields were very similar. Thus subjects in traditional and non-traditional fields had similar parental backgrounds.

Discussion of the Relationship Between Subjects' Personal Background Characteristics and Choice of Traditional or non-Traditional Occupation

A highly significant relationship was found between subjects' age, marital status and number of previous jobs and choice of

occupation. Subjects in non-traditional fields were older, more often married and had more work experience than subjects in traditional fields. The differences in marital status and numbers of previous jobs may have been related to the age factor as older persons are more likely to be married and to have experienced a greater number of jobs. The writer suspects that the subjects in the traditional and non-traditional fields are in different stages of career development. The majority of subjects in traditional fields (68.9 percent) were 18 to 20 years old and had enrolled directly into the Northern Alberta Institute of Technology program after completing their high school program. In contrast, the apprentices had experienced a few jobs before entering apprenticeship training programs. The writer suspects that the varied job experiences gave the subjects in non-traditional fields a better understanding of their career goals. This finding is consistent with the data of Almquist (1974) and Almquist and Angrist (1970) who reported that subjects in non-traditional fields had experienced a greater number and wider variety of jobs.

The subject's choice of traditional or non-traditional occupation was related to her education, her family size and the number of brothers in her family. The relationships among these variables were not as significant as those between occupational choice and age, marital status and number of previous jobs. Subjects in traditional fields more often had completed grade 12 in academic programs than subjects in non-traditional fields. Although the majority of subjects in non-traditional fields had completed grade 12, approximately one-quarter of them completed grade 11 or less. This finding is related to the

admission requirements of the different training programs. All students in medical laboratory and X-ray technologies must have a grade 12 academic diploma (or enter as mature students) while apprentices must have a minimum of only grade nine or 10 (depending upon the trade) for acceptance into the respective training programs. A greater percentage of the subjects in non-traditional fields, with grade 12 diplomas, held university or technical degrees. This finding is probably related to the higher mean age of the subjects. The overall lower educational achievement of subjects in non-traditional fields contradicts data reported in the literature review, which suggested that subjects in non-traditional fields had more education than subjects in traditional fields. The reason for the contradictory results was that the literature review focused on professional women with university education while this study focused on women in the skilled trades where the apprentice does not require a grade 12 diploma.

Contrary to the expectation that women in non-traditional fields come from small families where there is less sex-role differentiations than in large families (Blau and Duncan, 1967), in this study subjects in the non-traditional fields came from larger families than subjects in traditional fields.

Subjects in traditional and non-traditional fields were just as likely to be first or only born. Subjects in traditional fields were primarily first or only born or second born while subjects in non-traditional fields were primarily first born (38.3 percent). These findings supported the results of Crawford (1978), Greenfeld et al. (1980), Schmidt (1973), Shaefer (1978), Steinberg (1978) and Wisniewski

(1978) but did not support the results of Helson (1971), Hennig and Jardim (1977) and Lemkau (1978) who suggested first or only born children are given more individual attention and thus are not expected to conform to sex-role stereotypes.

Subjects in non-traditional fields had significantly more brothers than subjects in traditional fields. Sibling interaction may affect a woman's career choice. Crawford (1978) suggested a close relationship with a brother may contribute to a woman's decision to enter a non-traditional occupation.

No significant relationships were found between the subject's choice of traditional or non-traditional occupation and many of the demographic characteristics examined. The majority of subjects had no children. Since all the subjects were in the training stage of career development, they may have children after they have completed their training and established their careers. Most of the subjects and their parents were born in Canada. This finding supported data of Constantini and Craik (1972), Hennig and Jardim (1977), Lemkau (1978) and Steinberg (1978). Most subjects were Protestant, a finding which relates to the greater proportion of Protestants in Alberta (Canadian Market Facts, 1982). The majority of subjects came from stable family backgrounds where the parents were most often married and living together. Fourteen percent of the subjects in non-traditional fields came from single parent families where the mother was deceased. These subjects may have experienced less sex-role differentiation within the family as the father may have served as the only role model. Thus the personal demographic factors of age, marital status, number of jobs, educational status, family size and number

of brothers were related to the subjects' choice of traditional or non-traditional occupation in this sample of 136 women.

2. Factors Influencing Subjects Occupational Choice

Is there any significant relationship between various factors in the subjects' personal background and choice of traditional or non-traditional occupations?

a. Childhood Activities

Subjects were asked, "How frequently did you participate in the following activities?" Using a Likert-type scale, ranging from 1 (hardly ever) to 5 (very frequently), subjects rated the frequency of their participation in 14 activities.

Subjects differed significantly in the frequency of participation in the activities of fixing things, playing with dolls, climbing trees, playing marbles, and playing with girls (Table 5). An Analysis of Variance indicated that subjects in traditional fields participated significantly more often in feminine activities (playing with dolls, playing house and playing with girls) while subjects in non-traditional fields participated significantly more often in "masculine" activities (fixing things, climbing trees, playing marbles). These differences were much more significant in "masculine" play ($p<.01$) than in "feminine" play ($p<.05$). These results supported the data of Hennig and Jardim (1977), Navardi (1979) and Standley and Soule (1974) who found that subjects in non-traditional fields explored both masculine and feminine behaviors during childhood and

Table 5. Frequency of Subjects' Participation in Various Childhood Activities.

Variable	Subjects in Traditional Fields[a]		Subjects in Non-Traditional Fields[b]	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Sports	3.82	1.08	3.91	1.32
Domestic Activities	3.63	1.06	3.55	1.08
Arts and Crafts	3.11	1.10	3.06	1.42
Fixing Things**	2.82	0.97	3.47	1.12
Reading	3.57	1.39	3.55	1.43
Playing with Dolls* Etc.	2.97	1.27	2.83	1.23
Climbing Trees,** Playing Marbles, Etc.	2.80	1.12	3.53	1.10
Playing with Boys	3.38	1.06	3.72	0.97
Playing with Girls*	3.81	1.01	3.45	0.90

** $p < .01$

* $p < .05$

a = 89, b = 47

often considered themselves to be "tomboys". There seemed to be a relationship between frequency of participation in "masculine" activities and how non-traditional the occupation was. The apprentice mechanics reported the most frequent participation in "masculine" activities. Mechanics also came from larger families with many brothers who may have had a significant influence on the type of activities these women participated in.

Subjects in traditional and non-traditional fields participated just as often in activities of sports, domestic help (helping mother around the house, sewing, cooking), reading, arts and crafts and playing with boys. Perhaps subjects who participated in both feminine and masculine activities during childhood are more flexible in their behavior and are just as likely to choose traditional as non-traditional careers. Some childhood activities show a significant correlation with the career choice of women and it appears that the activities may influence this choice.

b. Subjects' Plans for Combining Work and Motherhood Roles

Subjects were asked, "What plans have you made with respect to combining work and motherhood?" Subjects' responses were classified into 11 categories (Table 6). Caution should be taken in interpreting the responses of this question. Many subjects in traditional (21.8 percent) and non-traditional (29.8 percent) fields have not made any plans about combining work and motherhood roles and 11.5 percent of the responses given by subjects in traditional fields were not detailed enough for classification (e.g. "I plan to work"). As well, the responses to this question may not be reliable because the

Table 6. Plans for Combining Work and Motherhood Roles.

Variables	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Plans to work full-time[c]		
1. After youngest child enters school	10.3%	25.5%
2. After youngest child finishes school	8.0%	2.1%
3. Not sure when	9.2%	4.3%
4. Right after maternity leave	4.6%	4.2%
5. No children planned	6.9%	12.8%
6. Presently have children	5.7%	21.3%
Plans to work part-time only		
1. After maternity leave	6.9%	0.0%
2. When youngest child enters school	8.0%	0.0%
Plans to be full-time homemaker	6.9%	0.0%
No plans yet	21.8%	29.8%
Insufficient Information	11.5%	0.0%

a = 87, b = 47

c Includes subjects who plan on working part-time before youngest child enters school

subjects may change their plans in the future. In spite of these weaknesses, some interesting patterns emerged.

A majority of the subjects in both traditional (71.3 percent) and non-traditional (57.4 percent) fields plan to have (or already have) children. However, a chi square test on the data in Table 6 indicated that the way in which they anticipate combining their career and motherhood roles differ significantly. More subjects in non-traditional fields (70.2 percent vs 44.7 percent in traditional fields) plan to work on a full-time basis. Only subjects in traditional fields anticipated working part-time primarily (14.9 percent) or not working at all (6.9 percent) after their children are born. Fifteen percent of the subjects in non-traditional fields plan to work on custom orders in the home while their children are of pre-school age.

Thus subjects in non-traditional fields do not plan on abandoning the "traditional" motherhood role but they may be more committed to their careers than subjects in traditional fields. The greater commitment of subjects in non-traditional fields may be related to the large investment (years of training and cost of equipment) these women have put into their careers.

c. Effects of Working and Non-Working Mothers on Occupational Choice

Subjects were asked, "If your mother was employed during this time period (ages five to 18), what effect did your mother's employment have on your career development?

Working mothers had significantly more effect on the subjects in non-traditional fields than on the subjects in traditional fields

($\chi^2(7)=21.45$, $p<.01$). Table 7 shows that 72 percent of the subjects in non-traditional fields reported that their working mothers had a significant effect on their occupational choice compared to only 41.5 percent of the subjects in traditional fields.

Of the subjects in traditional fields (41.5 percent) who reported mothers affecting their occupational choice, 9.8 percent of the subjects felt that their mothers wanted them to have a career to fall back on, and 7.3 percent of the subjects felt that their mothers wanted them to: lead an interesting life; further their education, and become independent. Three subjects also felt that their mothers wanted them to choose the same occupations that the mothers were employed in.

Two illustrative responses given by subjects in traditional fields were:

> "If anything, my mother's career reinforced the importance of having a career as something to fall back on. She worked only part-time so family life was stressed just as much, if not more than career life." (medical laboratory student).

> "She encouraged me to find a career I could fall back on in case anything happened (illness in family, divorce, death, etc.)." (X-ray student).

Subjects in non-traditional fields reported that their working mothers served as role models and many of the subjects (28 percent) thought it was normal for mothers to work. A significant number of subjects believed that their working mothers encouraged them to be independent.

A few typical responses given by subjects in non-traditional fields were:

Table 7. Effects that Working Mothers had on Subjects' Choice of Traditional or Non-Traditional Employment.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Encouraged Ss to have interesting lifestyle	7.3%	4.0%
Encouraged independence or self-support	7.3%	24.0%
Encouraged interest in same field	7.3%	0.0%
Discouraged career development	2.4%	0.0%
Encouraged further education	7.3%	4.0%
Encouraged Ss to have something to fall back on	9.8%	12.0%
Acceptance of working women with families	0.0%	28.0%
No effect	58.5%	28.0%

a = 41, b = 25

"The saw-mill operation was such that I grew up right on the job. Mother was very busy so she did not have a great deal of free time for me. I was entertained often by the men, read to, taken for walks, etc. Schooling was generally by correspondence and I rarely had friends my age. I grew up with the knowledge that women should work and enjoy their work." (apprentice electrician).

"Mother taught me self-reliance. She was highly practical and efficient and always had time for us - schoolwork, teaching us crafts. For the longest time I found it odd that other children's mothers didn't work." (apprentice mechanic).

"My mother had no choice but to take a more dominant role when my father became very ill. As a result I think the job I'm in is different than others. Kids learn by example." (apprentice electrician).

Subjects were asked, "If your mother was not employed during this time period, what effect did your mother's non-employment have on your career development?"

Non-working mothers of subjects in traditional fields did not significantly affect on their daughter's occupational choice more than non-working mothers of subjects in non-traditional fields. Table 8 shows that only 31.7 percent of the subjects in traditional fields and 27.3 percent of the subjects in non-traditional fields reported that their non-working mothers affected their occupational choice. If any, the greatest effect that non-working mothers had on their daughters' occupational choice was to encourage them to be independent or self-supporting. This effect was greater for subjects in traditional fields with non-working mothers (17.1 percent vs 7.3 percent) than for those with working mothers.

Two typical responses given by subjects who were encouraged to be independent or self-supporting by non-working mothers were:

"She encouraged me to do something in which I was interested so that I could be independent and self-supporting." (X-ray student).

Table 8. Effects that Non-Working Mothers had on Subjects' Choice of Traditional or Non-Traditional Occupation.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Suggested career not important	7.3%	0.0%
Encouraged further education	7.3%	0.0%
Encouraged independence or self-support	17.1%	27.3%
No effect	68.3%	72.7%

a = 41, b = 22

"It gave me an incentive to get out and make a better living for myself than what I had experienced at home." (apprentice electrician).

These results indicated that working mothers had a greater overall effect on their daughter's attitude towards work than did non-working mothers. The presence of a working mother was not related to the daughters' choice of either a traditional or non-traditional occupation. Role modelling of mother is not as simple as the literature presents it. As Hoffman (1972) implied, maternal employment seems to be associated with a greater approval of working mothers, a greater evaluation of women's abilities and less belief in traditional sex-role concepts.

d. Support or Encouragement Received from Others

Subjects were given a list of 17 people and asked to indicate who supported them in their career choice. Table 9 shows that 36.4 percent of the subjects in traditional fields reported no encouragement in their occupational choice while 10.6 percent of the subjects in non-traditional fields reported no encouragement. This finding supported that of Almquist (1974) who reported that women in traditional occupations often think no one has influenced their choice of occupation. Subjects in traditional fields were supported by an average of only two people compared to an average of three people for subjects in non-traditional fields. This result suggests that women in non-traditional fields may need or seek more support from others than do women in traditional fields.

In the traditional fields, subjects were encouraged or supported most often by mothers (44.3 percent), fathers (29.5 percent), females

Table 9. Persons Who Encouraged or Supported Subjects Occupational Choice.[c]

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Mother	44.3%	38.3%
Father	29.5%	31.9%
Sister	19.3%	21.3%
Brother	10.2%	19.1%
Female Relative	4.5%	14.9%
Male Relative	2.2%	10.6%
Female Teacher	9.1%	0.0%
Male Teacher	10.2%	8.5%
Female Counsellor	12.5%	2.1%
Male Counsellor	4.5%	4.3%
Female in Occupation	20.5%	2.1%
Male in Occupation	4.5%	51.1%
Male Friend	8.0%	14.9%
Female Friend	3.4%	17.0%
Boyfriend/Husband	13.6%	25.5%
Other	0.0%	6.3%
No One	36.4%	10.6%

a = 88, b = 47

c - multiple response question (percentages add up to >100).

in the occupation (20.5 percent) and sisters (19.3 percent) while subjects in non-traditional fields were encouraged or supported most often by males in the occupation (51.1 percent), mothers (38.3 percent), fathers (31.9 percent), boyfriends or husbands (25.5 percent) and sisters (21.3 percent). Subjects in non-traditional fields also received more support from brothers (19.1 percent vs 10.2 percent), female relatives (14.9 percent vs 4.5 percent), male relatives (10.6 percent vs 2.2 percent), female peers (17.0 percent vs 3.4 percent) and male peers (14.9 percent vs 8.3 percent) than did subjects in traditional fields.

When asked about the type of encouragement received, subjects in traditional and non-traditional fields (80.4 percent and 64.4 percent respectively) felt they received general support from others in their choice of occupation (Table 10).

A few illustrative responses given by subjects in traditional and non-traditional fields were:

> "My parents wanted me to have a career in something I wanted to do. Went along with my ideas. Counsellor suggested N.A.I.T. as a worthwhile institution. I looked into the program and decided it was for me." (medical laboratory student).
>
> "My mother always told me I should be a hairdresser. Maybe she had some kind of intuition of what type of career would suit me." (ladies hair-styling student).
>
> "I had complete support of my idea that I could undertake almost any role with some degree of success." (apprentice electrician).
>
> "My mother and sister thought it would be a unique great outdoor job with money. It was my brother who really encouraged me. He kept pushing me into it saying it would be just great." (apprentice electrician).

Occupational role models encouraged only 29.6 percent of the subjects in traditional fields compared to 55.3 percent of the subjects

Table 10. Type of Encouragement Subjects Received.[c]

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
General support	80.4%	64.4%
Financial support	3.6%	0.0%
Advice from counsellors	17.9%	4.7%
Advice from teachers	17.9%	2.3%
Advice from persons in occupation	29.6%	55.3%
Other	0.0%	4.7%

a = 57, b = 43

c - multiple response question (percentages add up to >100)

in traditional fields. These people stimulated the subjects' interest in the particular field by informing them about the advantages of the occupation, or by suggesting that the subject had the ability to do well in the particular type of occupation. In the non-traditional fields, 54 percent of the influential occupational role models were family members such as fathers, husbands, or brothers and 8.5 percent of the influential occupational role models were friends. Two subjects in non-traditional fields had a sister-in-law in the same trade. In the traditional fields most of the occupational role models were women whom the subjects were in contact with through previous employment or volunteer work in the area.

A few illustrative responses of the encouragement subjects received from people in the occupations were:

> "I was working in the dark room and was encouraged by the technicians to go into X-ray." (X-ray student).
>
> "My brother is in the trade and he said it wasn't a bad job, good pay and probably the easiest trade for a woman (not requiring much strength)." (apprenctice electrician).
>
> "Father has been in the autobody trade for about 15 years. I guess I kind of grew into it. I'd help him sand cars when I was younger and learned alot by watching him when I was younger and still by watching him now." (apprentice mechanic).
>
> "My brother is a welder and he let me know that I had the same chances as anyone else. Also some men in the occupation encouraged me (which surprised me). Sister-in-law is a welder and strongly recommended that I try." (apprentice welder).

School-related people such as teachers and school guidance counsellors were not very influential in subjects' occupational choice. Table 9 shows that 12.5 percent and 4.5 percent of the subjects in traditional fields were encouraged respectively by female and male guidance counsellors while only 2.1 percent and 4.3 percent of the

subjects in non-traditional fields were encouraged respectively by female and male counsellors. Subjects in traditional fields indicated that female and male teachers were influential in their career choice by 9.1 percent and 10.2 percent respectively. None of the subjects in the non-traditional fields were encouraged to consider choosing a trade by female teachers while only 4.3 percent of the subjects were encouraged by male teachers to consider choosing a trade. These findings contradict those of Almquist (1974), Almquist and Angrist (1970), Steinberg (1978) and Wisniewski (1978) who reported that women in non-traditional fields were more likely to have received positive support from a teacher or school related person. Perhaps teachers and school related people are in favor of women in non-traditional academic fields but have not accepted women in such non-traditional fields such as carpentry, mechanics or welding.

Subjects[1] in traditional fields were influenced more often by females (111.1 percent vs 93.4 percent) while subjects in non-traditional fields were influenced more often by males (143 percent vs 86 percent). This finding reflects the greater number of females in traditional fields and the greater number of males in non-traditional fields as well as the greater acceptability of women choosing traditional occupations. The data of this study corroborate those of Lemkau (1978) and Tangri (1972) who suggested that a close relationship

[1] Question #25 of the background questionnaire (Appendix 1) was of a multiple response nature such that subjects have more than one response. Thus the percentage of female and male people who were influential in the subjects' occupational choice added up to more than 100 percent.

with someone in the occupation, usually a male (friend, boyfriend, husband, father) seems to be related to a woman's decision to enter a non-traditional occupation. The strong support and approval of family members, people in the occupation and peers may give women confidence in their ability to perform tasks that are stereotypically perceived as "masculine".

e. Discouragement Received From Others

Subjects were asked, "Was there any person who discouraged you in the selection of your present occupation?" and, "How did this person try to discourage you?"

Significantly more subjects in non-traditional fields (69.6 percent vs 18.8 percent in traditional) reported someone tried to discourage them in their choice of occupation ($X^2(1)=33.10$, $p<.001$). Eighty-four percent of the apprentice mechanics reported some type of discouragement compared to only 40 percent of the cabinet-makers who reported discouragement. Seventy to 75 percent of the other apprentices reported that someone tried to discourage them.

Table 11 indicates that subjects in non-traditional fields were subject to more types of discouragement than subjects in traditional fields. The most frequent type of discouragement (44.2 percent) was by people who had negative attitudes about women working in a man's job.

A few illustrative responses given by subjects in non-traditional fields were:

Table 11. Type of Discouragement Subjects Received.[c]

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Lacks ability/course difficult	6.3%	3.2%
Low opinion of job	68.7%	29.1%
Poor job conditions	25.0%	16.3%
Man's work	0.0%	44.2%
Discrimination in job	0.0%	29.1%
Other	0.0%	6.4%

a = 16, b = 32

c - multiple response question (percentages add up to >100)

"They told me that: a) the work was too heavy for a female
b) the work was too dangerous
c) I would be wasting my brain
d) I'd end up looking like a male
e) I'd turn into a dyke."
(apprentice cabinet-maker).

"Men are usually trying to discourage me saying the work is too hard for a woman." (apprentice electrician).

"Some people believe that girls or women were not cut out to be in a man's job." (apprentice mechanic).

"She felt it was not lady-like and was no place for a woman." (apprentice welder).

Twenty-nine percent of subjects in non-traditional fields were discouraged by employers or co-workers.

A few illustrative responses were:

"Prospective employers - by refusing to hire me, laughing at the thought of a woman carpenter, not believing I could do the job." (apprentice carpenter).

"My boss said that women shouldn't try to fill a man's shoes in the auto trade." (apprentice mechanic).

"Male co-workers with obsolete ideas of masculinity and femininity which after initial pain, I learned to laugh at. Parents - same as above. Girlfriends couldn't understand why I wasn't satisfied in staying in a dull job with a dull marriage as well." (apprentice mechanic).

Low opinion of the job was the main source of discouragement for subjects in traditional fields. Sixty-nine percent of subjects who were discouraged in traditional fields while only 29 percent of subjects who were discouraged in non-traditional fields reported this type of discouragement.

A few illustrative responses given by subjects in traditional and non-traditional fields were:

"A high school teacher of mine told me I would have no problem if I went to university and he couldn't understand why I didn't want to go to college." (medical laboratory student).

"Said that a secretary was not a good future career and I was capable of being more than just a secretary." (secretarial arts student).

"Thought welding wasn't a job for a woman - too dirty." (apprentice welder).

More subjects in traditional fields (25 percent vs 16.3 percent in non-traditional fields), particularly medical laboratory, and X-ray technology were told about poor job conditions or dangers in the field.

A few illustrative responses were:

"By presenting alot of disadvantages - especially occupational hazards." (X-ray student).

"Father said there was a radiation hazard." (X-ray student).

"Father told me it was dangerous work." (apprentice electrician).

Thus, subjects in non-traditional fields were discouraged by others much more often than subjects in traditional fields. Although there has been an increase in the number of women working, they are not easily accepted in the male-dominated trades. The subjects' responses reflect the negative attitudes people still have about women in non-traditional roles. Perhaps this is why women in the trades perceived more encouragement and support by family or friends than subjects in the traditional fields. They needed this support to overcome all of the discouragement they received. These results imply women in the trades must be persistent and committed to their occupational choice in order to survive in the trade. Mishler (1975) summarizes the double bind women are in by stating:

> Occupational sex-stereotyping finds expression in both direct and indirect ways. Directly, sex-stereotyping is expressed in differential hiring practices and differential salaries. Indirectly it finds expression in the attitudes of persons towards women workers, both individually and collectively. Thus, whereas sex-role stereotyping delimits womens career options from a personal

> perspective, occupational stereotyping mitigates against women's career involvement from an institutional perspective. (p. 131).

3. Reasons for Selecting Particular Occupations

Subjects were asked, "In your mind how did you decide to enter your present area of training? Were there any critical factors which you feel have influenced you in your occupational choice? (for example, particular experiences, your employment, your hobbies, etc.) If there were please describe each briefly."

Subjects gave 75 different reasons for choosing their particular occupational field. Subjects in traditional fields gave an average of two (2.31) reasons while subjects in non-traditional fields gave an average of four (3.59) reasons for entering a particular field. The 75 reasons for entering a particular field were grouped into nine major themes for interpretation (Appendix 2, Table 8).

The major reasons for occupational choice reported by subjects in traditional fields were: (1) interest or aptitude in field (55.7 percent); (2) work conditions of job (36.7 percent); (3) likes working with people (25.3 percent); (4) type of educational program (24.1 percent); and (5) professional career development (20.3 percent). Other reasons reported less often were: (1) previous work experience in the field (15.2 percent); (2) favorite high school subject (13.9 percent); (3) family member in field (8.9 percent); and other reasons such as "fell into it" (3.8 percent).

The major reasons for occupational choice reported by subjects in non-traditional fields were: (1) work conditions of the job (77.8

Table 12. Subjects' Reasons for Choosing Occupational Field.[c]

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Likes working with people	25.3%	0.0%
Liked 2 yr program/didn't want to go to college	24.1%	16.7%
Previously worked in area	15.2%	24.4%
Professional career development	20.3%	40.0%
Favorite high school subject	13.9%	15.6%
Interest or aptitude in field	55.7%	57.8%
Work conditions of job	36.7%	77.8%
Family member in field	8.9%	30.2%
Other	3.8%	15.6%

a = 79, b = 45

c - multiple response question (percentages add up to >100)

percent); (2) an interest or aptitude in the field (57.8 percent); (3) professional career development (40.0 percent); (4) family member in field (30.2 percent); and (5) previous work experience (24.4 percent). Other reasons, reported less often were: (1) the type of educational program (16.7 percent); (2) favorite high school subject (15.6 percent); and other reasons such as "wanted to work in a non-traditional occupation" (15.6 percent). None of the subjects in non-traditional fields considered "working with people" to be important.

Subjects in non-traditional occupations and to a much lesser extent, the subjects in traditional fields considered the work conditions of the job as important reasons in occupational choice. Table 13 shows the eight subgroups on the theme of work conditions. Subjects in non-traditional fields frequently mentioned liking the kind of work (59.9 percent), the high income (46.6 percent) and the job challenge (28.9 percent). Subjects in traditional fields most often mentioned liking the kind of work (14.0 percent). Very few traditional subjects (less than 10 percent) were interested in having a high income or job challenge.

Subjects' reasons for entering their particular occupation were analyzed. In the traditional fields, subjects in medical laboratory technology chose that field because they: (1) were interested in the medical field (28.9 percent); (2) enjoyed high school science and biology courses (28.9 percent); and (3) wanted to work in a hospital (20 percent). Subjects in X-ray technology reported they: (1) were interested in the medical field (43.5 percent); (2) liked working with people (26.1 percent); and (3) wanted to receive a diploma in two years (26.1 percent). Subjects in secretarial arts enjoyed:

Table 13. Work Conditions of the Job.[c]

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Opportunity for Advancement	7.6%	2.2%
Job Variety	3.8%	0.0%
Type of Work	14.0%	59.9%
High Income	7.6%	46.6%
Job Demand	8.8%	8.9%
Benefits	2.5%	2.2%
Job Challenge	6.3%	28.9%
Independence	0.0%	2.2%

a = 79, b = 45

c - multiple response question (percentages add up to >100)

typing (35 percent), working with people (15 percent), their high school business courses (15 percent) and their previous work experience (15 percent). Subjects in ladies hairstyling chose their career because they liked working with hair (50 percent) and enjoyed creative work (25 percent).

Two illustrative responses given by subjects in traditional fields were:

> "I first came in contact with a lab technologist when I was working at a nursing home for a summer job. The techs would come in to collect blood specimens. I wanted to find out more about what a lab tech did so I set up a day (through my high school guidance counsellor) to visit a local hospital where my mother worked. I had always been impressed by hospitals but I knew I definitely did not want to be a nurse (I'm still not sure why, but I think I'm afraid of being so close to the patients). After my visit to the hospital I was even more impressed with the lab staff, it seemed to be a very interesting place to work and everyone I talked to enjoyed their work. I also visited the X-ray and physical therapy departments but neither interested me at all." (medical laboratory student).

> "I majored in business courses in high school. I felt that I was too young to work when I got out of school so I decided to go to N.A.I.T. My marks in high school were very high and I liked typing and taking short-hand. This is not my first career choice. I would like to become a city policewoman. If I do not this will give me something to fall back on." (secretarial arts student).

Thus the factors which influenced women to select traditional jobs pertained to an interest in the field, liking the type of work, and working with people.

In the non-traditional fields, subjects in cabinet-making chose their particular field because they enjoyed woodwork (80 percent), had a hobby in woodwork (40 percent) and wanted to start up a business with their husbands (40 percent). Subjects in carpentry were interested in building things out of wood (50 percent), had previous work experience in the trade (37.5 percent) and wanted to improve their professional

qualifications (37.5 percent). Electricians wanted a job with a high income (50 percent), a job that was challenging (42.9 percent) and a job change (28.6 percent). Subjects in mechanics had previous job experience in the field (37.7 percent) and enjoyed fixing cars (33.3 percent). Subjects in welding reported an interest in the trade (68.7 percent) and wanted a job with a high income (41.7 percent) that was challenging (33.3 percent).

Two illustrative responses given by subjects in non-traditional occupations were:

> "In every other field I went into, I reached the top wage and responsibility level and got bored with the prospect of staying there for the rest of my life. I decided I needed something which I could keep learning about and improving on forever. Cabinet-making fits that description. I could become a specialist in any of a hundred fields in it (drafting, carving, installation, veneer work, blue print work, etc). I also enjoy doing precise, picky things as hobbies (jewellry making, wood working, etc.). I decided that since woodworking was one of my hobbies anyway, I might as well get paid for it and have fun too. As well, my wages won't just reach a certain scale and stop. They will keep going up as long as I have the security of knowing I can go anywhere in the world at any time and practice without any worries." (apprentice cabinet maker).

> "I was separated and needed a decent paying job to support my children. Working in the field I have chosen has helped me build a good self-respect towards myself. The kind of money women make in regular traditional jobs, they would be better off staying at home with their children. For a woman alone to make it these days, she must go beyond what most people consider a woman's job. Women have not only been put in their place in their home but have been held back in the decent paying jobs. There are many jobs held by men for doing half the work in a day that even a housewife does in 2 hours. Men have put labels on jobs, simply to protect themselves. Maybe with more women in the field, men will have to work harder to keep their jobs. Maybe that's what they fear with women in non-traditional jobs." (apprentice welder).

Thus the factors which influenced women to select non-traditional jobs pertained specifically to the job: the kind of work, the money and the job challenge. Women in non-traditional fields did not place

much emphasis on liking the people they worked with. These results supported that data of Almquist and Angrist (1970), Andrisani and Shapiro (1978) and Navardi (1979).

Discussion of the Factors Relating to Choice of Traditional or Non-Traditional Occupation

Age and greater exposure to role models were two factors which significantly related to women's choice of non-traditional occupations. Because the women in non-traditional fields were generally older, and had more work experience than subjects in traditional fields, they were able to re-examine their career goals and consider non-traditional occupations. The women in non-traditional fields gave approximately twice as many reasons for choosing their particular occupation than did women in traditional fields. Perhaps women in non-traditional jobs are more certain of their occupational goals and have given much more thought to why they wanted to work in a skilled trade. Frustrated in their previous jobs, these women wanted to find a job where they liked the kind of work, received a high income and were challenged by the job as well. The factors which influenced women to choose traditional occupations were not totally unlike those of women in non-traditional fields. They also valued the kind of work but they were more interested in working with people than women in non-traditional fields. Women in both traditional and non-traditional fields valued professional career development, they wanted to have a skill of some sort. Super's (1957) theory of career development seems to be compatible with the results of this study. The women in this study are trying to match their self-concepts with their

occupational choice. As suggested earlier, the women in the traditional fields in this study are in a different stage of career development than the women in the non-traditional fields.

Women in non-traditional fields were exposed to and influenced by role models to a greater extent than were women in traditional fields. Although women in both traditional and non-traditional fields were just as likely to have either a working or non-working mother, women in non-traditional fields were more likely to perceive their working mothers as affecting their occupational choice by giving them a positive attitude towards work.

Women in non-traditional fields seemed to be more committed to their careers because they anticipated combining the multiple roles of wife and mother with full time employment while more women in traditional fields anticipated combining only part-time work or no work at all with the roles of wife and mother. Women in non-traditional fields have not abandoned the traditional role of homemaker (they still want to have children). Thus the women in non-traditional occupations are not non-traditional regarding family responsibilities but are non-traditional regarding the type of employment they prefer.

Occupational role models, many of which were the subjects' father, brother, husband or close friend, clarified the nature of the occupation, as well as encouraged the women in non-traditional fields to enter a specific trade. Early experiences with a supportive father (for example, helping him out in the shop) and the presence of male siblings seemed to correlate positively with a woman's decision to enter a non-traditional occupation. Through these role models, women begin to see themselves as capable of performing well

in jobs that are often thought of as unsuitable for women. In addition, the strong support that women in non-traditional fields received from family members, peers, and people in the occupation, gave them the assurance that they could succeed in non-traditional occupations.

The socialization process has resulted in sex-role stereotyping of men and women in different occupations. Women are not expected to be able to perform many of the activities that are considered appropriate for men. Women have "learned to be helpless" when it comes to fixing a car, building furniture or even doing well in physics. The mental blocks many women have concerning so-called masculine activities are learned through the socialization process. Even though our social structure is changing, many people still have traditional attitudes concerning what occupations are appropriate for women. The women in this study who decided to enter a non-traditional trade were subject to much discouragement.

4. Personality Characteristics

Did subjects in traditional or non-traditional fields differ significantly in any of the 14 personality characteristics in the Personality Research Form?

A Hotelling T^2 test showed that subjects in traditional fields differed significantly from subjects in non-traditional fields in only one personality trait ($T^2(14,121)=64.283$, $p<.001$). Subjects in traditional fields scored significantly higher than subjects in non-traditional fields on the personality characteristic of harm-avoidance (Table 14 and Figure 1). The actual entry of women in non-

Table 14. Means and Standard Deviations of the 14 Scales of the Personality Research Form.

Variable	Subjects in Traditional Fields[a]		Subjects in Non-Traditional Fields[b]	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Achievement	13.1	2.70	13.9	2.70
Affiliation	15.3	3.17	14.0	3.22
Aggression	5.5	3.21	6.3	3.72
Autonomy	7.2	3.41	8.4	3.13
Dominance	7.9	3.54	8.3	4.26
Endurance	11.9	3.62	13.5	3.20
Exhibition	8.1	3.96	7.8	4.55
Harmavoidance***	11.5	3.75	8.0	3.80
Impulsivity	9.1	3.58	9.0	3.52
Nurturance	15.3	3.37	14.9	3.09
Order	12.4	3.76	11.3	4.43
Play	12.7	9.95	10.8	3.49
Social Recognition	10.1	3.48	9.0	3.99
Understanding	11.2	3.22	12.7	3.51

a = 89, b = 47

*** $p<.001$

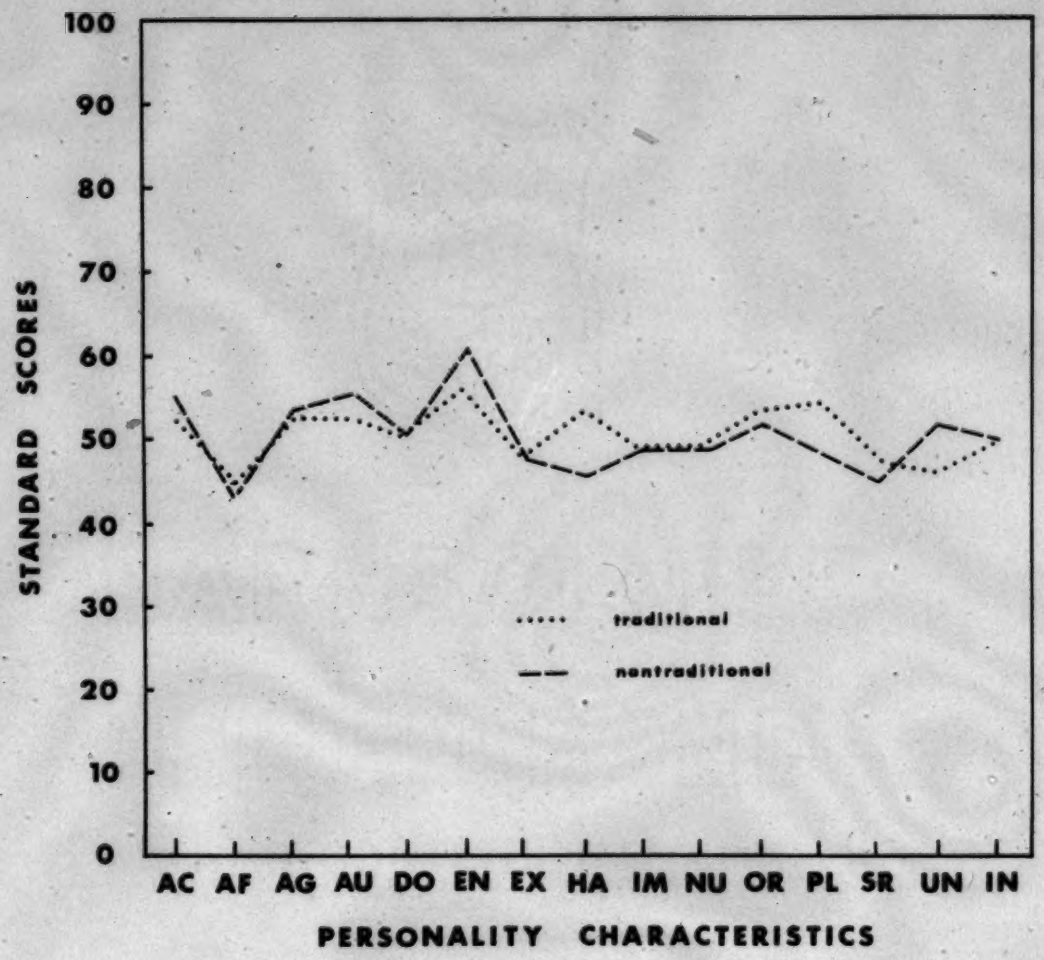

Figure 1. Profile of Subjects' Personality Characteristics on the Personality Research Form.

traditional trades is risk-taking in itself. This suggests that subjects in non-traditional fields perceive themselves to be more adventurous and willing to take risks than subjects in traditional fields. In the non-traditional fields, apprentice mechanics and electricians were the most risk-taking individuals. This finding appears to be logical because these two trades are the most non-traditional for women.

Subjects in traditional fields tended to have higher mean scores on measures of play while subjects in non-traditional fields tended to have higher mean scores on measures of endurance and understanding (intellectual curiosity). Subjects in non-traditional fields perceived themselves as more persistent, serious and intellectually curious than subjects in traditional fields.

Contrary to popular belief, in this study women in non-traditional fields were not any more aggressive or dominant or less nurturant than women in traditional fields. As well, women in both occupational groups had very similar mean scores on measures of achievement, affiliation, autonomy, exhibition, impulsivity, order and social recognition, but subjects in non-traditional fields tended to have mean scores in a more masculine direction on these personality measures.

Although the personality characteristics of subjects in the nine occupational fields were similar, the personality characteristics of subjects in the non-traditional fields seemed to vary much more than those of subjects in traditional fields. Apprentice mechanics seemed to be significantly more "masculine" in personality than all other subjects. They had the highest mean score on measures of achievement (competitiveness), aggression, autonomy, endurance,

exhibition and impulsivity along with the lowest mean scores on measures of harmavoidance and social recognition. This could be because these women are in the most non-traditional trade for women (e.g. heavy duty mechanic) and they may perceive themselves to be more "masculine" in personality than subjects in the other trades.

The Personality Research Form did not differentiate women in traditional fields from women in non-traditional fields as much as has been reported in the literature review. Fewer differences may have been found in this study because of the statistical procedure used, the Hotellings T^2 test. The data in the literature review was often analyzed by a procedure called Analysis of Variance, a statistical method that results in a greater chance of reporting a significant difference when there may be no actual difference (referred to as a Type 1 error). The subjects' personality characteristics were very heterogynous and differences may be related more to occupational fields rather than to traditional or non-traditional occupations. This implies that a woman's personality characteristics are adapted to her occupational role, a finding that was supported by Steinberg (1978).

5. Sex-Role Orientation

Did the subjects in traditional or non-traditional fields differ significantly in sex-role orientation as measured by the Bem Inventory?

An ANOVA showed that subjects in non-traditional fields had significantly higher Masculinity scores (Table 4) than subjects in traditional fields ($F(1,134)=20.43$, $p<.001$). No significant

difference was found between the Femininity scores (Table 16) of subjects in traditional and non-traditional fields. These results supported those of Yanico et al. (1980) who suggested that women in non-traditional fields do not necessarily describe themselves as less feminine than women in traditional fields but do describe themselves as more masculine.

A significant relationship was found between subjects' sex-role orientation and choice of traditional or non-traditional field (X^2 (3)=28.33, $p<.001$). Table 17 shows that subjects in traditional fields were predominantly Feminine in sex-role orientation (particularly those in medical lab technology, X-ray technology and secretarial arts) while subjects in non-traditional fields were predominantly Androgynous in sex-role orientation. Only six apprentices were Masculine in sex-role orientation. Approximately equal percentages of subjects in traditional and non-traditional fields had sex-roles which were undifferentiated.

The incongruency between the subjects' personality characteristics as measured by the Personality Research Form and their sex-role orientations as measured by the Bem Inventory may be due to the different concepts being measured by each test. The Personality Research Form uses a True or False format while the Bem Inventory uses a Likert-type scale ranging from one to seven. The writer suggests that the Bem Inventory may be a better assessment of one's personality than the Personality Research Form because the responses of an individual may be more realistic. In the Bem Inventory, the individual is given more flexibility in answering the question whereas in the Personality Research Form the individual is forced to give a

Table 15. Means, Standard Deviations, Variance and Analysis of Variance of Subjects' Masculinity Score in the Bem Inventory.

Subjects	Means	Standard Deviation	Variance
In Traditional Fields[a]	4.506	0.502	0.2520
Non-Traditional Fields[b]	4.975	0.693	0.4802

Source of Variance	SS	MS	df	F	P
Between Groups	6.745	6.745	1	20.433	0.000
Within Groups	44.233	0.330	134		

Table 16. Means, Standard Deviations, Variance and Analysis of Variance of Subjects' Femininity Scores in the Bem Inventory.

Subjects	Means	Standard Deviation	Variance
In Traditional Fields[a]	4.980	0.5183	0.2686
In Non-Traditional Fields[b]	4.860	0.5376	0.2890

a = 89, b = 47

Source of Variance	SS	MS	df	F	P
Between Groups	0.417	0.417	1	1.515	0.221
Within Groups	36.932	0.276	134		

Table 17. Subjects' Sex Role Orientation Based on the Bem Inventory.

Variable	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
Undifferentiated	29.2%	23.4%
Feminine	53.9%	17.0%
Masculine	4.5%	17.0%
Androgynous	12.5%	42.6%

a = 89, b = 47

True or False answer.

The subjects in non-traditional fields were more "masculine" in sex-role orientation on the Bem Inventory than the Personality Research Form. Although the personality differences between women in traditional and non-traditional fields on measures of achievement, affiliation, aggression, autonomy, endurance, play and understanding in the Personality Research Form were not significant, the women in non-traditional fields scored in a more masculine direction than women in traditional fields. The additive effect of the differences on these personality measures may explain why women in non-traditional fields had higher "masculine" scores on the Bem Inventory than on the Personality Research Form. A relationship was found between women's sex-role and occupational role. The findings of this research support Bem's theoretical implication that women with androgynous sex-role orientations are very adaptable and thus they are more likely to participate in "masculine" behavior such as working in non-traditional fields than women with feminine sex-role orientations.

6. Work Values Inventory

Did the subjects in traditional or non-traditional fields differ significantly in values relating to job satisfaction as measured by the Work Values Inventory?

A Hotelling T^2 test indicated that subjects in traditional fields scored significantly higher on the measures of Surroundings than the subjects in non-traditional fields ($T^2(15,118)=123.352$, $p<.05$). Subjects in traditional fields were more concerned about the physical

surrounding of the job than the subjects in non-traditional fields (Table 16). This seems logical because subjects in non-traditional fields work at sites which are not considered to be comfortable (e.g. construction sites, garages and outdoors). Figure 2 shows that the subjects in traditional fields also tended to place more value on job security, altruism and associates (working with people) than did subjects in non-traditional fields. Subjects in both fields rated achievement, supervisory relations, way of life, job variety and economic return (income) as fairly important. Subjects in both fields did not consider a management position or the esthetics of the job as important indices of job satisfaction.

A discrepancy was observed between the work values that the subjects considered important in the Work Values Inventory and the reasons subjects gave for choosing their particular occupation in the Background Questionnaire. The writer suspects that the Work Values Inventory did not discriminate the different values considered important by the subject in a job as much as the background questionnaire did. Since most of the work values of the Work Values Inventory are very desirable, the majority of women circled the highest value for many of the statements. For example, the value one places on income (Economic Return) is measured by the subject's response to the following three items: How important is work in which you .... 1. can get a raise; 2. have pay increases that keep up with the standard of living; 3. are paid enough to live right. The writer suspects that most people would consider these three items as very desirable in a job and would rate them as very high on the inventory. However, realistically it appeared that many women in this study did

Table 18. Subjects' Mean Scores and Standard Deviations on the Work Values Inventory.

Variable	Subjects in Traditional Fields[a]		Subjects in Non-Traditional Fields[b]	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Creativity	10.90	2.23	11.70	2.17
Management	8.70	1.97	7.48	2.75
Achievement	13.37	1.61	13.58	1.24
Surroundings*	12.84	1.74	10.30	2.23
Supervisory Relations	13.34	1.68	12.91	1.46
Way of Life	13.82	1.31	13.04	1.74
Security	12.28	2.45	10.52	3.02
Associates	11.60	2.14	10.17	2.21
Esthetics	9.17	9.92	9.91	2.66
Prestige	11.33	2.15	10.53	2.49
Independence	11.46	1.85	11.49	1.96
Variety	12.23	1.89	11.76	2.29
Economic Returns	12.75	1.83	12.63	2.20
Altruism	12.57	2.21	10.59	2.61
Intellectual Stimulation	11.95	1.74	11.89	1.75

a = 89, b = 46

* $p<.05$

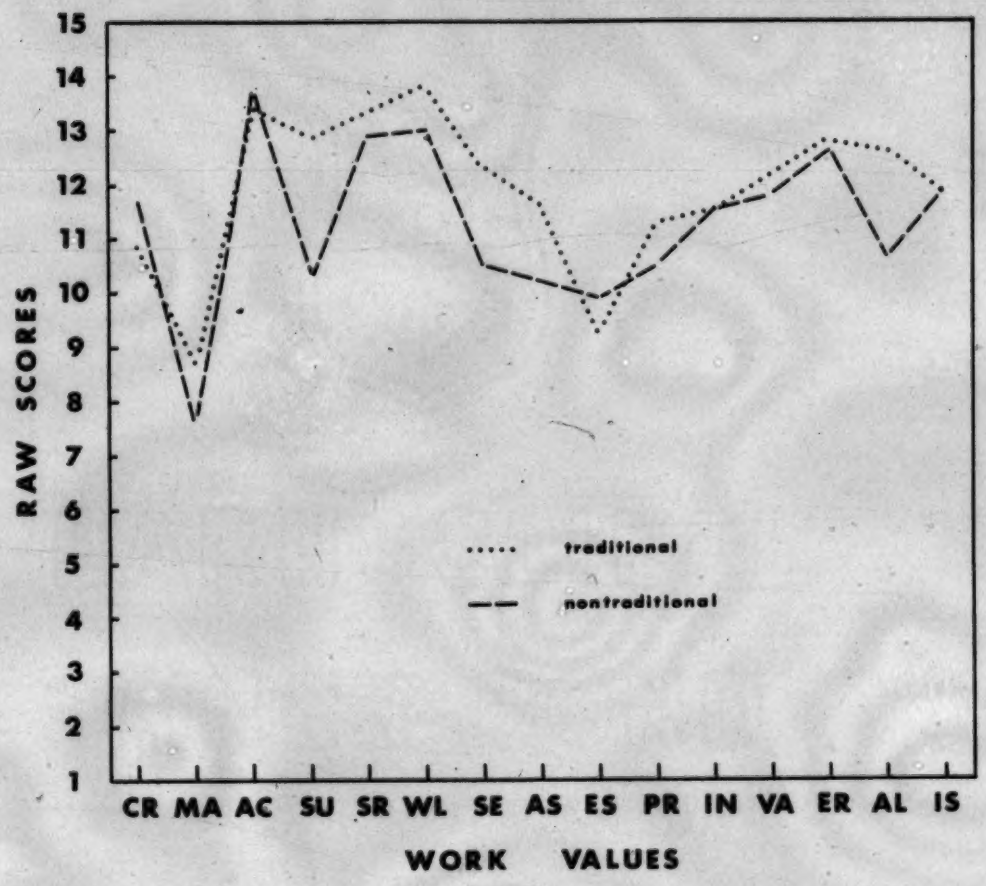

Figure 2. Profile of Subjects' Work Values on the Work Values Inventory.

regard a high income as an important criterion in their occupational choice.

Super (1970) does not report any validity data and I believe the Work Values Inventory is better suited for individual counselling, where a person can compare his/her relative scores on the different measures, than it is for research purposes. Even Super (1970, p.10) states, "As a self-report instrument, it is subject to deliberate and unconscious distortion, as subjects seek to impress the user of the inventory or to gratify their needs by portraying themselves in a particular way."

CHAPTER V SUMMARY AND CONCLUSIONS

This chapter provides a concluding summary of the study followed by a discussion of the limitations and recommendations for future research.

Summary

The purpose of this study was:

(1) To compare the personal background and personality characteristics, sex-role orientations and work values of women in traditional occupations and non-traditional trades.

(2) To determine which of these factors relate to women's decisions to enter non-traditional occupations.

Questionnaires were sent out to 239 female students. The results of this study were based on 136 completed questionnaires; 89 from women training in traditional occupations and 47 from women apprentices in non-traditional trades.

Conclusions

Based on the data, the following conclusions were made:

1. Significant relationships were found between some of the subjects' demographic characteristics and choice of traditional or non-traditional occupation. Women in non-traditional fields were older, more often married, more likely to have had more work experience and less likely to have completed grade 12. They came from larger families and had more brothers.

2. The type of activities that subjects participated in during childhood influenced their occupational choice. Women in non-traditional fields participated significantly more often in masculine activities (fixing things, climbing trees, etc.) while women in traditional fields participated more often in feminine activities (playing with dolls, playing house and playing with girls).

3. A significant relationship was found between subjects' plans for combining the roles of career and motherhood, and the choice of a traditional or non-traditional occupation. Women in non-traditional fields seemed to be more committed to their careers because they planned to combine motherhood with full-time employment while subjects in traditional fields were more likely to combine motherhood with part-time employment or full-time homemaking.

4. Women in both traditional and non-traditional fields were just as likely to have working as non-working mothers. However, the working mothers of women in non-traditional fields had significantly more affect on their daughter's career choice than those in traditional fields. Their mothers served as role models and encouraged their daughters to be independent and have positive attitudes towards work.

5. Non-working mothers of women in traditional fields did not significantly effect their daughter's occupational choice more than non-working mothers of women in non-traditional fields.

6. Women in non-traditional fields received support or encouragement from more people than women in traditional fields. They were exposed to significantly more occupational role models such as fathers,

brothers, husbands, boyfriends or friends. These occupational role models stimulated the women's interest in the trade. Women in non-traditional fields received more support from men while women in traditional fields received more support from women.

7. Although school-related people such as teachers or guidance counsellors encouraged or supported women in traditional fields more often than women in non-traditional fields, they appeared to have little influence on either group's choice of career.

8. Women in non-traditional fields were subject to more discouragement from parents, brothers, sisters, employers, co-workers and friends than were subjects in traditional fields.

9. One of the main reasons women in both traditional and non-traditional fields entered their particular occupations was interest in the field and liking the type of work. However, they differed in that women in non-traditional fields wanted a high income while women in traditional fields were more interested in working with people.

10. The results from the Personality Research Form indicated that women in non-traditional fields were significantly more willing to take risks (harmavoidance) than women in traditional fields. Other personality differences were found but the differences were not statistically significant.

11. On the Bem Inventory women in both traditional and non-traditional fields had similar Femininity scores but women in non-traditional

fields had significantly higher Masculinity scores. Accordingly, women in traditional fields were more likely to have a Feminine sex-role orientation while women in non-traditional fields were more likely to have an Androgynous sex-role orientation. The few women with Masculine sex-role orientations were mainly in non-traditional fields.

12. The Work Values Inventory does not seem to be an appropriate test to use in research of this type because the inventory did not differentiate between the work values of women in traditional and non-traditional fields as well as the background questionnaire.

The data in this study reinforces the idea that women's career development is a very complex process as found by Crites and Fitzgerald (1979), Osipow (1975) and Psathas (1968). It appears from this study that women training for non-traditional fields such as mechanics or carpentry show differences in certain background and personality characteristics. Most of these differences relate to characteristics that might assist in overcoming the stigma of working in male-dominated trades. However, there was considerable overlap between the women in traditional and non-traditional fields, such that many of their backgrounds, personalities and work values were more similar than different, indicating that there is probably no particular reason why any woman could not enter into a non-traditional trade. The largest conclusion in this study is that people who have been be stereotyped to be quite different don't really appear to be different on the scales used in this study.

Limitations of the Study

The results of this study were based on 48 percent of the initial sample of women in the apprenticeship training programs and 64 percent of the initial sample of women in the traditional training programs. The women who did not participate in the study may be different from those who did.

This study was based on women in training rather than on women who are in the work force. Women in training may be different from those who are actually working in the field.

The women in the two occupational fields are in different stages of career development. Women in the trades were older and had more work experience than women in the traditional fields. Some of the women in the traditional fields may change over to non-traditional fields in the future.

Sample sizes were too small to look at the differences within the non-traditional and traditional groups. For example, a medical laboratory technologist may be quite different in personality from a ladies hairstylist and some of these differences could be greater than those between the two major groups. There are also many other traditional and non-traditional occupations that could be considered.

Recommendations

For Women and Men:

1. Men and women need to recognize that women are capable of performing well in non-traditional occupations, and that these occupations are

appropriate for women. The media should expose women to a variety of occupational role models to allow freer choice and broader knowledge of the careers available for women rather than exposing women to only traditional occupations.

For the Educational System:

1. Text books, showing women in only traditional roles of housewife and mother need to be replaced by books which show women in a variety of roles.

2. Girls at the junior high level should be encouraged to take a shop course. The shop classes should be co-educational with, idealistically, equal numbers of girls and boys in the class. Boys should be encouraged to take home economic classes.

3. The school system needs to hire more women in the jobs that are considered non-traditional - in shop classes, science classes and administrative positions.

For School Counsellors and Teachers:

1. More emphasis needs to be placed on career counselling.

2. School counsellors and teachers need to recognize their sex-role biases and attempt to encourage women to seriously consider all occupational fields that match their aptitude and not just those considered appropriate for women.

3. Counsellors should bring women who are in non-traditional fields into the classroom. Students would be able to question the women

on their careers and lifestyles. Working women who are married and have children would be ideal since one of the greatest barriers stopping women from entering non-traditional careers is the perceived conflict between working and motherhood roles. Knowledge about how these women integrate the multiple roles would be most beneficial.

4. Counsellors need to encourage women to visit people on different jobs so that they have a greater awareness of the different occupations available to them.

5. Counsellors and teachers need to teach women to be assertive. Women in non-traditional fields are subject to much discouragement and they need to know how to deal with it.

For Apprenticeship Programs:

1. The Alberta Apprenticeship and Trades Certification Branch should try to educate employers to consider hiring women apprentices.

For Future Research:

Some ideas for future research include:

1. Repeat the same procedure comparing women training in non-traditional occupations with women employed in the occupations to determine if there are just as many differences between women in different stages of career development as there are between women in traditional and non-traditional fields.

2. Repeat the same procedure including women in "neutral" occupations as well as women in traditional and non-traditional fields.

3. Instead of mailing out questionnaires, interview women in different occupations. This way some of the questions might be clarified and the researcher might receive more information.

4. A follow-up study would be interesting to determine how many of these women actually stayed with the occupation they were being trained for.

5. Since men played such an important role in the occupational choice of women in the trades, it would be interesting to study the attitude that husbands and employers have about women in the trades, why this attitude exists and how to go about changing it.

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APPENDIX I

COVER LETTER AND BACKGROUND QUESTIONNAIRE

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION
THE UNIVERSITY OF ALBERTA

Dear Participant,

You have been selected to participate in a study designed to help understand the factors involved in womens' career choice. Enclosed is a 4 part questionnaire which you are asked to fill out. As the questionnaire is quite lengthy (approximately 75 minutes) you might find it easiest to fill out one part at a time.

Your cooperation is highly desired as a maximum return rate is necessary. If you choose not to participate please return the unanswered questionnaire in the stamped envelope provided. I would appreciate it if you would return the questionnaire in the stamped enclosed envelope within 10 days. Please contact me by mail at the University address or phone 488-7377 (evenings) if you have any questions regarding the study or desire personal feedback on the study and your particular responses. Put your name on the questionnaires only if you desire personal interpretation of your responses.

I thank you very much for your cooperation.

Sincerely,

Anne Glasgow

Anne Glasgow

6-102 EDUCATION NORTH, EDMONTON, ALBERTA, CANADA • T6G 2G5 • TELEPHONE (403) 432-5245

Part I Background Questionnaire

1. Present occupation/field of study_____ 2. Age_____

3. Marital status_____ 4. Number of children_____

5. Place of birth_____ 6. Religious background_____

7. Mother's birthplace_____ 8. Father's birthplace_____

9. Number of older brothers_____ 10. Number of younger brothers_____

11. Number of older sisters_____ 12. Number of younger sisters_____

13. Parents' marital status: 1) Married and living together_____

2) Separated or divorced_____How long?___(yrs)

3) Mother deceased_____Father deceased_____

14. Highest grade completed_____ 15. Type of high school program____

16. List any diplomas, degrees or certificates received_____

17. Number of different full time jobs held before beginning your present program_____

For questions #18,19,20,21,22 and 23, think back to when you were 5 to 18 years old.

18. Father's occupation_____ 19. Mother's occupation_____

20. Was your mother employed outside of the home while you were growing up_____

21. If your mother was employed during this time period, what effect did your mother's employment have on your career development?

22. If your mother was not employed during this time period, what effect did your mothers non-employment have on your career development?

23. How frequently did you participate in the following activities? (circle one)

	hardly ever	not very often	sometimes	frequently	very frequently
a. sports	1	2	3	4	5
b. domestic activities (sewing, cooking, helping mother)	1	2	3	4	5
c. arts and crafts (embroidery etc.)	1	2	3	4	5
d. fixing things	1	2	3	4	5
e. reading	1	2	3	4	5
f. playing with dolls, playing house(etc.)	1	2	3	4	5
g. playing marbles, climbing trees	1	2	3	4	5
h. playing with boys	1	2	3	4	5
i. playing with girls	1	2	3	4	5

24. What plans have you made with respect to combining work and motherhood?

25. Which of the following people encouraged you to select your present occupation?(circle all that apply)

1. mother	7. male teacher	13. girlfriend
2. father	8. female teacher	14. boyfriend
3. sister	9. male guidance counsellor	15. male friend
4. brother	10. female guidance counsellor	16. priest, minister
5. female relative	11. male in the occupation	17. other,(specify)_____
6. male relative	12. female in the occupation	18. no one

26. How did the above person(s) encourage you in your occupational choice?

27. Was there any person(s) who discouraged you in your selection of your present occupation?_____

28. How did this person(s) discourage you?

29. In your mind, how did you decide to enter your present area of training? Were there any critical factors which you feel have influenced you in your occupational choice? (for example, particular experiences, your employment, your hobbies etc.). If there were, please describe each briefly.

APPENDIX 2

SUPPLEMENTARY TABLES

Table 1. Percentage of Women Registered in the Nine Training Programs in June, 1981.

Traditional Program*	Percentage	Non-Traditional Program	Percentage**
Medical Laboratory Technology	94.0	Cabinet-Making	6.1
		Carpentry	0.6
Medical X-Ray Technology	95.0		
		Electrician	0.8
Secretarial Arts	100.0	Mechanics	0.3
Ladies Hairstyling	96.0	Welding	1.2

Source * N.A.I.T. registration list
** Apprenticeship Board registration list

Table 2. Coding Sheet.

Question	Column	Variable	Response	Code
	1-3	Subject	ID 001-913	--
	5	Card #	1-4	
1	6	1 (field)	Med Lab tech	1
			X-Ray tech	2
			Secretarial arts	3
			Ladies hairstyling	4
			Cabinet making	5
			Carpentry	6
			Electrician	7
			Mechanics	8
			Welding	9
			No response	Ø
2	7,8	2	Age	--
			No response	Ø
3	9	3 (marital status)	Single	1
			Married	2
			Living w someone/commonlaw	3
			Divorced/separated	4
			Widowed	5
			No response	Ø
4	10	4 (children)	None	9
			1	1
			8 or more	8
			No response	Ø
5	11	5 (birthplace)	Canada	1
			Out of Canada	2
			No response	Ø
6	12	6 (religion)	Protestant	1
			Catholic	2
			Jewish	3
			Agnostic/none	4
			Other	5
			No response	Ø
7	13	7 (mother's birthplace)	Canada	1
			Out of Canada	2
			No response	Ø
8	14	8 (father's birthplace)	Canada	1
			Out of Canada	2
			No response	Ø

Question	Column	Variable	Response	Code
9	15	9 (No. of children)	One	1
			8 or more	8
			No response	Ø
10	16	10 (birth order)	1st/only born	1
			2nd	2
			Youngest of 8 or more	8
			No response	Ø
11-12	17	11 (No. of brothers)	None/all sisters	Ø
			1 brother	1
			8 or more brothers	8
			No response	9
13-A	18	12 (parent's marital status)	Married & living together	1
			Separated/divorced	2
			Mother deceased	3
			Father deceased	4
			No response	Ø
13-B	19	13 (No. yr. parents divorced)	1-5 yrs	1
			6 yrs or more	2
			No response/not applicable	Ø
14	20,21	14 (h.school education)	Yrs.	--
			No response	Ø
15	22	15 (diploma)	Academic/metric	1
			Business/general	2
			Vocational/technical	3
			Other	4
			No response	Ø
16	23-25	16 (degree diploma)	High school diploma	1
			Technical diploma	2
			Journeyman certificate	3
			College degree	4
			Other	5
			Some college education (at least 1 yr)	6
			No response	Ø
17	26	17 (jobs)	None	Ø
			One	1
			8 or more	8
			No response	9

Question	Column	Variable	Response	Code
18-A	27-32	18 (father's occupation)	Professional, technical & kindred	1
			Farmers & farm managers	2
			Managers, officials & proprietors, except farm	3
			Clerical & kindred workers	4
			Sales workers	5
			Craftsmen, foremen & kindred	6
			Operatives & kindred workers	7
			Private household workers	8
			Service workers except private household	9
			Farm laborers & foremen	10
			Laborers except farm & mine	11
			Students	12
			Housewives/homemakers	13
			Retired unemployed widows	14
			Insufficient information	15
			Not applicable/no response	Ø
18-B	33	19	Father-daughter field Yes	1
			No	2
			No response/not applicable	Ø
19	34-39	20 (mother's occupation)	Same question 18-A	1-15
			No response	Ø
20	40	21 (was mother working)	Yes	1
			No	2
			Not applicable/no response	Ø
21	41	22 (effect of mother's work)	1. Important function-creates friends, lifestyle, etc.	1
			2. Encouraged Ss to be independent	2
			3. Encouraged interest in same field	3
			4. Negative-didn't want Ss to work	4
			5. Encouraged Ss to further education & get a good job	5
			6. Encouraged Ss to seek out interest so she could have something to fall back on	6
			7. Thought mothers were supposed to work	7
			8. None	8
			9. No response/not applicable	9

Question	Column	Variable	Response	Code
22	42	23 (effect of mother not working)	1.Realized motherhood had priority over career.	1
			2.No encouragement to succeed and extend oneself.	2
			5.Encouraged daughter to further education so she could get a good job.	5
			6.Encouraged daughter to seek out her own interests so she could be self-supporting.	6
			9.None	9
			.No response	Ø
23-A	43	24 (sports)	1.Hardly ever	1
			2.Not very often	2
			3.Sometimes	3
			4.Frequently	4
			5.Very frequently	5
			10.No response	Ø
23-B	44	25 (domestic activities)	Same as 23-A	1-5
			No response	Ø
23-C	45	26 (arts & crafts)	Same as 23-A	1-5
			No response	Ø
23-D	46	27 (fixing things)	Same as 23-A	1-5
			No response	Ø
23-E	47	28 (reading)	Same as 23-A	1-5
			No response	Ø
23-F	48	29 (dolls)	Same as 23-A	1-5
			No response	Ø
23-G	49	30 (marbles)	Same as 23-A	1-5
			No response	Ø
23-H	50	31 (boys)	Same as 23-A	1-5
			No response	Ø
23-I	51	32 (girls)	Same as 23-A	1-5
			No response	Ø
24	52,53	33	1.Anticipate working only until children are born then resuming full-time work after youngest child is 16-18 yrs old.	01
			2.Anticipate working only until children are born and then resuming full-time work when youngest child enters school.	02

Question	Column	Variable	Response	Code
			3.Anticipate working only until children are born and then resuming part-time work when youngest child enters school.	03
			4.Anticipate working only until children are born and then resuming full-time employment when need arises.	04
			5.Anticipate working full-time with time off for maternity leave.	05
			6.Anticipate working until children are born then resuming part-time employment after maternity leave.	06
			7.Anticipate working part-time until children are in school and then resume full-time employment.	07
			8.Anticipate becoming a full-time homemaker when children are born and will work only if financial necessity.	08
			9.No children planned.	09
			10.Plan on doing custom orders at home until children enter school.	10
			11.Am presently combining child care with full time work/ studies.	11
			12.Insufficient information	12
			14.Hope to adopt and work full-time.	14
			99.No plans	99
			Ø.No response	Ø
25	54-71	34 (persons encouraging Ss in career choice)	1.Mother	01
			2.Father	02
			3.Sister	03
			4.Brother	04
			5.Female relative	05
			6.Male relative	06
			7.Male teacher	07
			8.Female teacher	08
			9.Male guidance counsellor	09
			10.Female guidance counsellor	10
			11.Male in occupation	11
			12.Female in occupation	12
			13.Girlfriend	13
			14.Boyfriend	14
			15.Male friend	15

Question	Column	Variable	Response	Code
			16.Husband	16
			17.Other	17
			18.Other	18
			19.Mother-in-law	19
			20.Father-in-law	20
			21.Conference on women in non-traditional occupations	21
			22.Female psychiatrist	22
			23.Personnel officer	23
			99.No-one	99
26	72-80	35 (how person influenced career choice)	1.Encouraged & supported Ss's decision for job change.	01
			2.Provided financial support if required.	02
			3.Parents wanted Ss to have career.	03
			4.Counsellor provided information & advice on chosen career	04
			5.Person in occupation gave information on job, type of programs, courses & encouraged Ss to try occupation.	05
			6.Male teacher put Ss in work experience class.	06
			7.Several people helped research occupation.	07
			8.Teacher suggested chosen field as good occupation.	08
			9.Did several interest tests to find career.	09
			10.Family member suggested Ss needed career to fall back on.	10
			11.Mother wanted daughter to be in chosen field.	11
			13.Said Ss talented in this area.	13
			14.Suggested what Ss had to gain from field.	14
			15.Nice comfortable job.	15
			16.Girlfriend applied in same occupational courses.	16
			17.Encouraged Ss to continue education.	17
			18.Saw women were successful in this field.	18
			19.Boyfriend in same field & was encouraged to develop in it.	19
			20.Helped Ss get position to apply for apprenticeship program.	20

Question	Column	Variable	Response	Code
			21.Father, family member in same field.	21
			22.Worked on a house for sister	22
			No response	ØØ
	1-3	5	Subject's ID	
	5	Card #	5	5
27	6	36 (anyone discourage Ss?)	Yes	1
			No	2
			No response	Ø
28	7-16	37 (how Ss discouraged)	1.Course was difficult.	01
			2.Teacher, boyfriend thought Ss was wasting her intelligence.	02
			3.Told Ss field was boring after 2 yrs.	03
			4.Doesn't understand why Ss wants to work in chosen field.	04
			5.Lots of shift work.	05
			6.Occupation dangerous.	06
			7.Teacher, friend said chosen occupation was the lowest job ever (or worst job).	07
			8.Work was too heavy for female.	08
			9.Ss would end up looking like a male, lots of muscles.	09
			10.Ss would turn into a "dyke".	10
			11.Becomes a pain for Ss to have to explain why she chose particular career.	11
			12.People don't think it's right for a woman to do this type of work. Make fun of Ss.	12
			13.Prospective employers refused to hire Ss, laughed at Ss, didn't think she could do job.	13
			14.Counsellor told Ss that job prospects were poor in this field. Didn't inform Ss about government support for women to enter non-traditional occupations.	14
			15.Family member said Ss should start thinking about family obligations rather than new career.	15
			16.Men on job gave Ss a hard time. Thought women should be at hom.	16

Question	Column	Variable	Response	Code
			17.Said Ss had no mechanical ability.	17
			18.Journeyman blamed Ss for his own mistakes.	18
			19.Thought the idea of husband/ wife team would never work.	19
29	17-34	38 (how Ss chose career)	1.Liked working with different people.	01
			2.Wanted to go to NAIT. Looked interesting in calendar.	02
			3.Second choice of occupation.	03
			4.Worked as volunteer in area	04
			5.Sickness in self/family eg. broken ankle.	05
			6.Needed a career I could fall back on.	06
			7.Liked medical field/Med lab or X-ray.	07
			8.Family member in this field (family history) encouraged Ss.	08
			9.Teacher recommended this field.	09
			10.Thought field would be rewarding and challenging.	10
			11.Enjoyed working in a hospital but didn't want to be a nurse or doctor-too much personal contact.	11
			12.Wanted a degree in 2 years.	12
			13.Liked science & biology courses in high school.	13
			14.Felt I needed a job change.	14
			15.Opportunity for advancement.	15
			16.Needed variety in job.	16
			17.Didn't want a desk job.	17
			18.Liked detailed work.	18
			19.Liked helping people.	19
			20.Good pay-would be able to support self.	20
			21.Good job opportunities-could move anywhere & get a job.	21
			22.Parents "wore me down".	22
			23.Visited person in occupation and researched what they did.	23
			24.Wanted job with good benefits and work conditions.	24
			25.Enjoyed typing.	25
			26.Did very well in business courses in high school.	26

Question	Column	Variable	Response	Code
			27. Wanted to further education immediately.	27
			28. I was too young to work.	28
			29. This is stepping stone to in my career development.	29
			30. Wanted to improve my professional qualifications.	30
			31. Likes working with hair.	31
			32. Enjoys working with hands.	32
			33. Chosen career is something I've always wanted to do but don't know why.	33
			34. I like making people feel good. If you feel good you look good.	34
			35. Flexibility in type of job I can get-teacher, etc.	35
			36. Wanted a mentally stimulating job where I'll never stop learning or improving.	36
			37. Chosen career started out as a hobby.	37
			38. Like creative work.	38
			39. Helped father with handiwork around house.	39
			40. Enjoy craft work.	40
			41. Plan on setting up business with husband, boyfriend.	41
			42. Took a shop course in this field.	42
			43. Enjoy building things with wood.	43
			44. Had a previous job in this field.	44
			45. Mechanically inclined.	45
			46. Likes strenuous work.	46
			47. Disallowed a foreman's job because of sex. Wanted to join union.	47
			48. Enjoys working outdoors.	48
			49. Enjoys working with tools/ machinery.	49
			50. Determined to have a non-traditional job.	50
			51. Job does not require strength.	51
			52. Electrician's work appealed to me.	52
			53. I'm an athletic person.	53
			54. Didn't want to go to college.	54
			55. Learning a trade & being paid at same time.	55

Question	Column	Variable	Response	Code
			56.Couldn't find a job with existing university degree	56
			57.Disliked attitudes of co-workers in previous jobs.	57
			58.Did a creative job search on a computer and a battery of interest & aptitude tests at counsellor's office.	58
			59.Facinated by chosen field.	59
			60.Lots of freedom on the job.	60
			61.Wanted a job with visible results.	61
			62.Didn't complete high school & unsatisfied with unskilled job.	62
			63.For convenience. Husband has his own business in this trade.	63
			64.Worked in shop with father. Found out I enjoyed this work.	64
			65.Took a pre-employment class at NAIT.	65
			66.Enjoy status of non-traditional job.	66
			67.Enjoy fixing cars and making them look new.	67
			68.Interested in welding.	68
			69.Need a job with money so I can support children.	69
			70.As a child I liked to play with microscopes & chemistry sets.	70
			71.Couldn't afford to go to university.	71
			72.Wanted a nice easy job.	72
			73.Wanted to be able to build my own house someday.	73
			74.Counsellor gave a talk on women in non-traditional occupations.	74
			75.Car always breaking down & I wanted to learn how to fix it.	75
			Missing values	ØØ

Table 3. Personality Research Form Scales.

Scale	Description of High Scorer	Defining Trait Adjectives
Achievement	Aspires to accomplish difficult tasks; main-high standards and is willing to work toward distant goals; responds positively to competition; willing to put forth effort to attain excellence.	striving, accomplishing, capable, purposeful, attaining, industrious, achieving, aspiring, enterprising, self-improving, productive, driving, ambitious, resourceful, competitive.
Affiliation	Enjoys being with friends and people in general; accepts people readily, makes efforts to win friendships and maintain associations with people.	neighborly, loyal, warm, amicable, good-natured, friendly, companionable, genial, affable, cooperative, gregarious, hospitable, sociable, affiliative, good-willed.
Aggression	Enjoys combat and argument; easily annoyed; sometimes willing to hurt people to get his way; may seek to "get even" with people whom he perceives as having harmed him.	aggressive, quarrelsome, irritable, argumentative, threatening, attacking, antagonistic, pushy, hot-tempered, easily-angered, hostile, revengeful, belligerent, blunt, retaliative.
Autonomy	Tries to break away from restraints, confinement, or restrictions of any kind, enjoys being unattached, free, not tied to people, places or obligations; may be rebellious when faced with restraints.	unmanageable, free, self-reliant, independent, autonomous, rebellious, unconstrained, individualistic, ungovernable, self-determined, non-conforming, uncompliant, undominated, resistant, lone-wolf.
Dominance	Attempts to control his environment, and to influence or direct other people; expresses opinions forcefully; enjoys the role of leader and may assume it spontaneously.	governing, controlling, commanding, domineering, influential, persuasive, forceful, ascendant, leading, directing, dominant, assertive, authoritative, powerful, supervising.

Table 3 continued.

Scale	Description of High Scorer	Defining Trait Adjectives
Endurance	Willing to work long hours; doesn't give up quickly on a problem; persevering, even in the face of great difficulty; patient and unrelenting in his work habits.	persistent, determined, steadfast, enduring, unfaltering, persevering, unremitting, relentless tireless, dogged, energetic, has stamina, sturdy, zealous, durable.
Exhibition	Wants to be the center of attention, enjoys having an audience; engages in behavior which wins the notice of others; may enjoy being dramatic or witty.	colorful, entertaining, unusual, spell-binding, exhibitionistic, conspicuous, noticeable, expressive, ostentatious, immodest, demonstrative, flashy, dramatic, pretentious showy.
Harm-avoidance	Does not enjoy exciting activities, especially if danger is involved; avoids risk of bodily harm, seeks to maximize personal safety.	fearful, withdraws from danger, self-protecting, pain-avoidant, careful, cautious, seeks safety, timorous, apprehensive, pre-cautionary, unadventurous, avoids risks, attentive to danger, stays out of harm's way, vigilant.
Impulsivity	Tends to act on the "spur of the moment" and without deliberation; gives vent readily to feelings and wishes; speaks freely; may be volatile in emotional expression.	hasty, rash, uninhibited, spontaneous, reckless, irrepressible, quick-thinking, mercurial, impatient, incautious, hurried, impulsive, foolhardy, excitable, impetuous.
Nurturance	Gives sympathy and comfort; assists others whenever possible, interested in caring for children, the disabled, or the infirm; offers a "helping hand" to those in need; readily performs favors for others.	sympathetic, paternal, helpful, benevolent, encouraging, caring, protective, comforting, maternal, supporting, aiding, ministering, consoling, charitable, assisting.

Table 3 continued.

Scale	Description of High Scorer	Defining Trait Adjectives
Order	Concerned with keeping personal effects and surroundings neat and organized; dislikes clutter, confusion, lack of organization; interested in developing methods for keeping materials methodically organized.	neat, organized, tidy, systematic, well-ordered, disciplined, prompt, consistent, orderly, clean, methodical, scheduled, planful, unvarying, deliberate.
Play	Does many things "just for fun", spends a good deal of time participating in games, sports, social activities, and other amusements; enjoys jokes and funny stories; maintains a light-hearted, easy-going attitude toward life.	playful, jovial, jolly, pleasure-seeking, merry, laughter-loving, joking, frivolous, prankish, sportive, mirthful, fun-loving, gleeful, carefree, blithe.
Social Recognition	Desires to be held in high esteem by acquaintances; concerned about reputation and what other people think of him; works for the approval and recognition of others.	approval seeking, proper, well-behaved, seeks recognition, courteous, makes good impression, seeks respectability, accommodating, socially proper, seeks admiration, obliging, agreeable, socially sensitive, desirous of credit, behaves appropriately.
Understanding	Wants to understand many areas of knowledge; values synthesis of ideas, varifiable generalization, logical thought, particularly when directed at satisfying intellectual curiosity.	inquiring, curious, analytical, exploring, intellectual, reflective, incisive, investigative, probing, logical, scrutinizing, theoretical, astute, rational, inquisitive.
Infrequency	Responds in implausible or pseudo-random manner, possibly due to carelessness, poor comprehension, passive non-compliance, confusion, or gross deviation.	

Table 4. Interpreting WVI Scores.

Abbreviations	Descriptions
Al	Altruism: this work value, or goal, is present in "work which enables one to contribute to the welfare of others." Altruism assesses social values and interests. Girls tend to make somewhat higher scores than do boys, but both sexes show a decline in raw scores with age during adolescence (if grade differences are interpreted as age differences), boys showing a more considerable change. Men in social service occupations, such as Peace Corps teachers and school counselors, make high scores on this scale, higher than do most men and women. However, the average scores for most groups tested tend to be relatively high. White collar workers tend to make higher scores than blue collar workers. Social desirability appears to inflate scores on this scale.
Es	Esthetic: a value inherent in "work which permits one to make beautiful things and to contribute beauty to the world." Esthetic values are related to similarly named traits (artistic interests) on the Strong and Kuder interest inventories. The average for people in general and for most curricular and occupational groups tested thus far with the WVI is low, other values tending to be stressed more. Higher than average scores characterize Peace Corps teachers (but not school counselors) and white collar workers such as office clerks tend to make higher scores than do blue collar workers such as body and fender men.
Cr	Creativity: a value associated with "work which permits one to invent new things, design new products, or develop new ideas." Creativity is related to artistic and scientific interests on the Strong and Kuder inventories. It is a value associated with non-material aspects of culture, found particularly in Peace Corps teachers, electronics technicians and other somewhat self-expressive as contrasted with time-serving occupations.
IS	Intellectual Stimulation: associated with "work which provides opportunity for independent thinking and for learning how and why things work." Intellectual stimulation appears to assess a quality which characterizes people with professional and scientific interests of an abstract type, a liking for using one's intellectual abilities and for exercising one's judgment. It appears to be somewhat related to planfulness but not to educational achievement as reflected in grades.

Table 4 (Continued).

Abbreviations	Descriptions
	Peace Corps teachers tend to make high scores on this scale, while police and fire applicants (all tested with an earlier form of the WVI) score low. What clerical workers consider "mentally challenging" is not, obviously, what scientists so consider.
Ac	Achievement: a value associated with "work which gives one a feeling of accomplishment in doing a job well." Achievement appears to assess a task orientation, a liking for work with visible, tangible results. Most people in the USA and both clerks and engineers tested in India give achievement a relatively high place in their value hierarchy. It is not related to grades or to participation in extracurricular activities. Professional men, clerical workers, and men in technical fields tend to make relatively high scores on achievement.
In	Independence: associated with "work which permits one to work in his own way, as fast or as slowly as he wishes." Independence, as measured by the WVI, seems to reflect a pleasure orientation, more characteristic of males than of females, of low than of high level occupations, although in India engineers tend to value it more than do office clerks. Social desirability tends to lower scores on this scale. Office machine repairmen, electronics technicians, and business students score relatively high on independence values.
Pr	Prestige: associated with "work which gives one standing in the eyes of others and evokes respect." Prestige taps a desire for the respect of others rather than for status or for power. It is related to interest in business contact occupations. Most people attach considerable importance to this value. Police and fire candidates and school counselors engaged in professional improvement made particularly high scores when tested with earlier forms of the WVI.
Ma	Management: associated with "work which permits one to plan and lay out work for others to do." Management values characterize business students, people interested in contact occupations, and persons in occupations requiring that they plan their own work even if not that of others; they are not rated high by counselors and teachers.

Table 4 (Continued).

Abbreviations	Descriptions
ER	Economic Returns: a value or goal associated with "work which pays well and enables one to have the things he wants." Economic Returns represent a type of value often referred to as materialistic, the attaching of importance to tangibles, to earnings. Boys and men make higher scores on this scale than do girls and women. Most persons, except Peace Corps teachers, score fairly high; white collar workers make higher scores than skilled and semi-skilled workers.
Se	Security: associated with "work which provides one with the certainty of having a job even in hard times." Security is somewhat related to Economic Returns, as is to be expected in the case of a second kind of material value. It reflects, too, a degree of interest in getting the rewards of work. It is stressed less than most values by most occupational groups thus far tested, but boys and girls who are still in school, and semi-skilled factory workers, assign it more importance than do others, perhaps because they feel its lack more acutely.
Su	Surroundings: a value associated with "work which is carried out under pleasant conditions - not too hot or too cold, noisy, dirty, etc." Surroundings, the material environment in which the work is done, tend to be important to people with interests which are not specifically in the work itself, but in its concomitants. Secretaries tend to attach more importance to these values than do most occupational groups, Peace Corps teachers less.
SR	Supervisory Relations: a value associated with "work which is carried out under a supervisor who is fair and with whom one can get along." Supervisory Relations denote the attaching of importance to getting along with the boss, as in cases with extreme scores. Most groups so far studied attach little importance to this type of value, although data on a larger number of semi-skilled workers might suggest otherwise, as studies show they do for police and firemen.
As	Associates: a value characterized by "work which brings one into contact with fellow workers whom he likes." Associates, the people with whom one works, are considered important by office workers, and by people in lower-level skilled occupations, more than by those in more demanding fields. It has been shown

Table 4 (Continued).

Abbreviations	Descriptions
	in many studies using other methods that, for the semi-skilled especially, whether white collar or blue, the social life of the job is more important than the nature of the work itself.
WL	Way of Life: associated with the kind of work that "permits one to live the kind of life he chooses and to be the type of person he wishes to be." Way of Life assesses a value which does not seem to be highly developed in young people, and the concept is one which has little meaning to the less mature and to people at low socioeconomic levels. High school boys and girls attach a moderate degree of importance to this value, which is associated with participation in school and community activities and with peer acceptance. Peace Corps teachers attach special importance to it, as do school counselors and students of broadcasting. Other data secured with the earlier forms of the WVI suggest that the way of life which is important to some of these occupational groups is quite different from that which is valued by another.
Va	Variety: associated with "work that provides an opportunity to do different types of jobs." Variety, which appears like the last four values to reflect a pleasure rather than a task orientation, is a value which generally receives a relatively low place in the hierarchy of those so far tested. It is noteworthy, however, that in some groups such as Peace Corps teachers it ranks relatively high. It seems that in the case of these young people interested in serving others in unusual ways and places, variety is associated with intellectual stimulation, esthetic, and creative values in an unusual combination, rather than with supervisory relations and associates.

Table 5. Return Rate of Useable Data Packages.

Traditional Fields[a]	Percentage	Non-Traditional Fields[b]	Percentage
Medical Laboratory Technology	73.0	Cabinet-making	33.3
X-Ray Technology	68.4	Carpentry	53.3
Secretarial Arts	60.0	Electrician	50.0
Ladies Hairstyling	48.0	Mechanics	46.1
		Welders	50.0
Total	65.4	Total	47.5

a = 89 subjects, b = 47 subjects

Table 6. Age Distribution of Subjects.

Age	Subjects in Traditional Fields[a]	Subjects in Non-Traditional Fields[b]
20 or less	68.5%	10.6%
21-25	22.5%	51.1%
26-30	3.4%	14.9%
31-35	3.4%	21.3%
36+	2.1%	2.1%

a = 89, b = 47

Table 7. Occupation Classifications.[a]

1. Professional, technical, and kindred workers. Includes Accountants; Actors; Airplane pilots and navigators; Architects; Artists; Athletes; Auditors; Authors; Chemists; Chiropractors; Clergymen; College presidents, professors and instructors; Conservationists; Dancers; Dentists; Designers; Dietitians; Draftsmen; Editors; Embalmers; Entertainers; Farm management advisors; Foresters; Funeral directors; Healers; Home management advisors; Judges; Lawyers; Librarians; Musicians; Natural scientists; Nutritionists; Optometrists; Osteopaths; Personnel workers; Pharmacists; Photographers; Physicians; Professional nurses; Radio operators; Recreation workers; Religious workers; Reporters; Social scientists; Social workers; Sports instructors and officials; Student professional nurses; Surgeons; Surveyors; Teachers; Technical engineers; Therapists; Veterinarians.

2. Farmers and farm managers. Includes tenant farmers and sharecroppers.

3. Managers, officials, and proprietors, except farm. Includes Buyers; Building superintendents; Credit men; Lodge officials; Postmasters; Public administration officials; Purchasing agents; Railroad conductors; Ship officers, pilots, pursers and engineers; Shippers of farm products; Union officials.

4. Clerical and Kindred workers. Includes Bank tellers; Bill and account collectors; Bookkeepers; Cashiers; Dentist's office attendants; Express agents; Express messengers; Library assistants and attendants;

Mail carriers; Messengers; Office boys; Office machine operators; Physician's office attendants; Railway mail clerks; Receiving clerks; Secretaries; Shipping clerks; Station agents; Stenographers; Telegraph messengers; Telegraph operators; Telephone operators; Ticket agents; Typists.

5. Sales workers. Includes Advertising agents and salesmen; Auctioneers; Demonstrators; Hucksters; Insurance agents and brokers; Newsboys; Peddlers; Real estate agents and brokers; Stock and bond salesmen.

6. Craftsmen, foremen, and kindred workers. Includes Annealers; Bakers; Blacksmiths; Boilermakers; Bookbinders; Brickmasons; Cabinetmakers; Carpenters; Cement finishers; Compositors; Concrete finishers; Coppersmiths; Cranemen; Derrickmen; Diemakers; Die setters; Electricians; Electrotypers; Engravers; Excavating machinery operators; Forgemen; Glaziers; Goldsmiths; Grading machinery operators; Heat treaters; Hoistmen; Lens grinders and polishers; Lithographers; Locomotive engineers; Locomotive firemen; Log and lumber scalers and graders; Loom fixers; Machinists; Mechanics; Metal molders; Metal rollers; Metal roll hands; Millers; Millwrights; Motion picture projectionists; Opticians; Organ tuners; Painters (construction and maintenance); Paperhangers; Photoengravers; Piano tuners; Pipe fitters; Plasterers; Plate printers; Plumbers; Power linemen and servicemen; Garage laborers; Groundskeepers; Longshoremen; Oystermen; metal workers; Shoemakers, except in factories; Silversmiths; Slaters; Stationary engineers; Stereotypers; Stone carvers; Stone cutters; Stonemasons; Structural metal workers; Tailors; Telegraph and Telephone linemen and servicemen;

Tile setters; Tinsmiths; Tool makers; Typesetters; Upholsterers; Watchmakers; Window dressers.

7. Operatives and kindred workers. Includes Apprentices, Asbestos workers; Auto service attendants; Blasters; Boatmen; Bus conductors and drivers; Canalmen; Chauffeurs; Deck hands; Deliverymen; Dressmakers; Dry cleaning operatives; Dyers; Fruit, nut and vegetable graders and packers; Furnacemen; Insulation workers; Laundry operatives; Meat cutters; Metal filers, grinders, and polishers; Metal heaters; Milliners; Mine operatives and laborers; Motormen; Painters (except construction and maintenance); Parking lot attendants; Photographic process workers; Powdermen; Power station operators; Railroad brakemen and switchmen; Routemen; Sailors; Sawyers; Seamstresses; Smeltermen; Stationary firemen; Street railway conductors; Surveying tenmen, rodmen, and axmen; Taxicab drivers; Textile spinners; Textile weavers; Tractor drivers; Truck drivers; Welders.

8. Private household workers. Includes housekeepers and laundresses in private households.

9. Service workers, except private household. Includes Attendants and ushers in amusement places; Bailiffs; Barbers; Bartenders; Beauticians; Boarding house keepers; Bootblacks; Bridge tenders; Charwomen; Cooks, except in private households; Detectives; Doorkeepers; Elevator operators; Firemen (fire protection); Fountain workers; Guards; Hospital attendants; Janitors; Lodginghouse keepers; Manicurists; Marshals; Midwives; Policemen; Porters; Practical nurses; Sextons; Sheriffs; Stewards; Waiters; Watchmen.

10. Farm Laborers and foremen. Includes both paid and unpaid family farm laborers, and self-employed farm service laborers.

11. Laborers, except farm and mine. Includes car washers; Fishermen; Garage laborers; Groundskeepers; Longshoremen; Oystermen; Raftsmen; Stevedores; Teamsters; Woodchoppers.

12. Students.

13. Housewives.

14. Retired, Unemployed, and Widows.

[a] United States Job Census, taken from Backstrom, C. H. and Hursh, G.D. Survey research. Norwestern University Press, 1963.

Table 8. Themes for Occupational Choice.

Theme	Code (#29 of Background Questionnaire)
1. Working with People	
Likes working with different people.	01
Likes helping people.	19
Likes making people feel good.	34
2. Educational	
Wanted to go to N.A.I.T. Looked interesting in calendar.	02
Wanted a degree in two years.	12
Didn't want to go to college.	54
Wanted to further education immediately.	27
Couldn't afford to go to university.	71
3. Work Experience	
Worked as a volunteer in area.	04
Had a previous job in area.	44
Worked in the shop with father. Found out I enjoyed this type of work.	64
4. Career or Professional Development	
Needed a career that I could fall back on	06
I wanted a job change.	14
This is a stepping stone in my career development.	29
Wanted to improve my professional qualifications.	30
I was disallowed a foreman's job because of my sex. I wanted to join a union.	47
I didn't complete high school and was dissatisfied.	62
I couldn't find a job with my university degree.	56
5. Interest in Course	
I enjoyed high school biology and science courses.	13
I did well in business courses in high school.	26
I took a shop course in this field.	42
I took a pre-employment class at N.A.I.T.	65

Theme	Code
6. Interest or Aptitude in Field	
Illness in the family (eg. I broke my ankle and had it X-Rayed).	05
A teacher recommended the field.	06
I liked the medical field.	07
I enjoy working in a hospital.	11
I visited a person in the occupation and liked what they did.	23
I enjoyed typing.	25
I enjoyed cutting hair.	31
My career started out as a hobby.	37
I liked helping my father with the handiwork around the house.	39
I enjoyed building things out of wood.	43
I am mechanically inclined.	45
Electrician work appealed to me.	52
I did a creative job search on a computer and a battery of interest and aptitude tests at the counsellors office.	58
I was facinated by the chosen field.	59
I enjoyed fixing cars and making them look like new.	67
I was interested in welding.	68
As a child, I was interested in chemistry and microbiology kits.	70
I want to be able to build my own house someday.	73
A counsellor gave a talk on Women in Non-Traditional Occupations.	74
I wanted to learn how to fix my own car.	75
7. Work Conditions	
Opportunity for advancement.	15
Variety in the job.	16
Type of work	
Detailed work	18
Visible results	61
Physical work	
(a) Didn't want a desk job.	17
(b) Enjoy working with my hands.	32
(c) Enjoy strenuous work.	46
(d) Enjoy working outdoors.	48
(e) Enjoy working with tools or machinery.	49
(f) Job doesn't require physical strength.	51
Creative work	
(a) Like creative work.	38
(b) Enjoy craft work.	40

Theme	Code
High Wages	
Want good pay so I would be self supporting.	20
Like learning a trade while being paid.	55
I needed a job with good pay so I can support my children.	69
Job Opportunities	
I can go anywhere and find a job.	21
There is flexibility in the type of job I can get.	35
Benefits and Work Conditions	
I want a job with good benefits and work conditions.	
Challenge	
I thought the field would be rewarding and stimulating.	10
I wanted a mentally stimulating job where I'll never stop learning or improving.	36
I'm an athletic person and I wanted a challenge.	53
Independence	
I wanted freedom on the job.	60
8. Family-Related Reason	
Family history in the trade encouraged me to do the same.	08
I plan on setting up a business with my husband/boyfriend.	41
My husband has his own business.	63
I worked in the shop with my father.	64
9. Other Reasons	
I enjoyed the status of being a non-traditional woman or being in a non-traditional occupation.	66
Chosen career is something I've always done but I can't explain why.	33
This was my second choice of occupation. I would like to go into police work.	03